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Database
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                                                                                                                                                                                                                              Post-processing:
                                                                                                                                                                                                                                                               DB seq length: 0
DB seq length: 2000000000
                                                                                                               A_Geneseq_16Dec04:*
1: geneseqp1980s:*
2: geneseqp1990s:*
                                                                                                                                                                                                                                                                                                                                                           2105692 segs, 386760381 residues
                                                                                                                                                                                                                                                                                                                                                                                                Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                     BLOSUM62
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277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    May 4, 2005, 11:39:31; Search time 162 Seconds
                                                                                                                                                                                     Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                     HFKPCRDKDLAYCLNDGECF.....SHKHCRCKEGYQGVRCDQFL 47
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                 geneseqp2000s:*
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112.208 Million cell updates/sec
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

### SUMMARIES

25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	თ	ທ	4	w	N	1	Result No.
113.5	113.5	113.5	113.5	113.5	113.5	116.5	116.5	116.5	277	277	277	277	277	277	277	277	277	277	277	277	277	277	277	277	Score
41.0	41.0	41.0	41.0	41.0	41.0	42.1	42.1	42.1	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	Query Match I
63	63	63	53	53	52	52	52	52	720	720	720	720	713	713	696	696	502	362	360	157	157	52	48	47	Length
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AAR67250	AAR46918	AAR55659	ADN48885	AAE36803	AAW05184	AAB12602	AAY69983	AAW05182	ADN48890	ABG32065	AAY05452	AAW97618	ABG32061	AAW97617	ABG32080	AAW97619	ABB08776	AAW97620	AAW97621	ADN48870	AAY05451	AAE36807	AAG66046		Ib
Aar67250 Human epi	Aar46918 EGFL2. 3/		Human	Aae36803 Human neu	Aaw05184 Neu diffe			Aaw05182 Neu diffe	Human	Human	_	Human		Mouse	Novel	Human		Mouse		Human		Human	Aag66046 Mouse NRG	Aaw97622 Human neu	

5	44	43	42	41	40	39	38	37	36	<b>3</b> 5	34	ω U	32	31	30	29	28	27	26
113.5	113.	113.	113.	113.	113.	113.	113.	113.	113.	113.	113.	113.	113.	113.	113.	113.	113.	113.	113.
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1.0	;; 0	1.0	1.0	1.0	41.0	1.0	1.0	1.0	1.0	41.0	1.0	11.0	1.0	1.0	1.0	1.0	11.0	1.0	11.0
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4	0	υ	տ	N	N	N	N	N	N	N	N	N	N	N	N	w	N	N	N
AAG67933	ADH77520	ABJ00081	ABJ00043	AAR87464	AAW09366	AAR96079	AAR67253	AAR46921	AAR55662	AAR87465	AAW09367	AAR96080	AAR67254	AAR46922	AAR55663	AAB36702	AAR87461	AAW09363	AAR96076
	Adh77520 Hu	Abj00081 Hu		Aar87464 Ep	Aaw09366 EG	Aar96079 Ep	Aar67253 Hu	Aar46921 EG	Aar55662 EG	Aar87465 Ep	Aaw09367 EC	Aar96080 Ep	Aar67254 Hu	Aar46922 EG	Aar55663 EG	Aab36702 EG	Aar87461 Ep	Aaw09363 EG	Aar96076 Ep
	Human neu	Human neu	Human neu	Epidermal	EGFL5. 8/	Epidermal	Human epi	EGFL5. 3/	EGFL5. 3/	Epidermal	EGFL6. 8/	Epidermal	Human epi	EGFL6. 3/	EGFL6. 3/	EGF-like	Epidermal	EGFL2. 8/	Epidermal

#### ALIGNMENTS

#### 09-JUL-1997; 24-JUL-1997; 30-JUN-1998; Homo sapiens. neuropathy; therapy; diagnosis; epidermal growth factor; EGF; immunoadhesin. Neuregulin related ligand; NRG3; hNRG3B1; human; ErbB4 receptor; signal transduction; nervous system disorder; neurodegeneration; Human neuregulin related ligand NRG3 EGF-like domain. 10-MAY-1999 (first entry) AAW97622; AAW97622 standard; protein; 47 21-JAN-1999. WO9902681-A1. (GETH ) GENENTECH INC. 97US-0052019P. 97US-00899437. 98WO-US013411. A

New isolated neuregulin related ligand-3 - used to develop products for treating nervous system disorders, e.g. stroke, ischaemia, infection, malignancy, Alzheimer's disease or Down's syndrome.

WPI; 1999-120882/10.

Godowski PJ,

Mark MR,

Zhang Ä

Claim 30; Page 64; 101pp; English.

This is the epidermal growth factor (EGF)-like domain of human neuregulin related ligand NRG3 (see also AAW97618), a novel member of the EGF-like family of protein ligands that binds to the ErbB4 receptor and activates ErbB4 receptor tyrosine phosphorylation. The EGF-like domain of NRG3 is distinct from the EGF-like domains of NRG1 and NRH2. The invention provides human and murine polypeptides (see also AAW97617) that have at least 75% homology to the NRG3 EGF-like domain, as well as expression vectors, host cells and methods EGF-like domain, as well as expression NRG3s. The NRG3 polypeptides and polynucleotides and can be used to enhance the survival, proliferation or differentiation of cells having

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RESULT 2
AAG66046
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           the ErbB4 receptor in vivo and in vitro. They can be used to prevent or treat damage to a nerve or damage to other NRG3-expressing or NRG3-responsive cells, e.g. brain, heart, or kidney cells. In particular, they can be used to treat diseases which involve neural cell growth such as demyelination, or damage or loss of glial cells (e.g. multiple sclerosis). They can be used to treat patients whose nervous system has been damaged by e.g. trauma, surgery, stroke, ischaemia, infection, metabolic disease, nutritional deficiency, malignancy, or toxic agents. NRG3 can also be used to treat motor neuron disorders such as amyotrophic lateral sclerosis (Lou Gehrig's disease, Bell's palsy, conditions involving spinal muscular atrophy or paralysis, neurodegenerative control of the paralysis of the second of the sec
Novel ErbB-4 ligand, referred as neuregulin (NRG)-4 and polynucleotide sequences encoding NRG-4, useful for upregulating or downregulating ErbB-4 receptor activity to treat Alzheimer's disease, stroke, gastric cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ErbB-4; neuregulin-4; NRG-4; pro-NRG-4; neuroprotective; vulnerary; cerebroprotective; vasotropic; antiparkinsonian; anticonvulsant; cytostatic; nootropic; EGF; NRG-3.
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The invention relates to a novel ErbB-4 ligand, neuregulin-4 (NRG-4). NRG

Selecting or designing compounds that interact with or inhibit formation

WPI; 2003-268181/26

Disclosure; Fig 1c; 153pp; English.

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RESULT 3
AAE36807
ID AAE3
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Best Local S
Matches 47
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03-AUG-2001; 2001AU-00006828.
01-NOV-2001; 2001US-0335393P.
01-NOV-2001; 2001US-0336560P.
31-MAY-2002; 2002AU-00002731.
11-JUN-2002; 2002US-0388171P.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Epidermal growth factor receptor; EGFR; therapy; psoriasis; carcinoma; cancer; rhabdomyosarcoma; mesothelioma; melanoma; glioblastoma; human; receptor; EGF; neuregulin 3.
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Lovrecz GO,
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BIOMOLECULAR RES INST LTD.
HALL INST MEDICAL RES WALTER &
LUDWIG INST CANCER RES.
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                                                                                                                                                           AW, Elleman TC, (
, Mckern NM, Nice
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100.0%; Pred. No. 7.6e-21;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                      LTD.
WALTER & ELIZA.
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                                                                                                                                                           Garrett TPJ,
e EC, Ward CW;
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The HLF is involved in the regulation of cell growth. Detection of different levels of expression of the HLF gene can be used for the diagnosis of disorders, e.g. in the neural system. In particular, detection of different levels of HLF gene expression in cells or body fluid of an individual can be used for diagnosing cancer. The products can also be used in the treatment of disorders involving abnormal levels of the product of the produ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 of active dimers of the EGF receptor family, and useful for the prevention and treatment of disorders, such as psoriasis and cancer of the breast, brain or colon.
                                                                                                                                                                                                                                                                                                                                                                                                    diagnosis and treatment of disorders particularly cancers.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 1999-095327/08.
N-PSDB; AAX36423.
                                                                                                                                                                                                                                           This sequence is the human heregulin-like factor (HLF) of the invention
                                                                                                                                                                                                                                                                                                                          Claim 17; Page 86-87; 118pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New isolated heregulin-like factor
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       16-JUN-1998;
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(GEOU ) UNIV GEORGETOWN.
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Pred. No. 8.2e-21;
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Best Local
                                                                                                                                          Query Match
                                                                                                                                                                                           Sequence 157 AA;
                                                                                                                                                                                                                                                             The present invention relates to novel heregulin-like factor (HLF) polypeptides and the encoding polypeptides. The invention is useful for preparing a composition for diagnosing and treating cancer. The invention is also useful in gene therapy. The present sequence is human
                                                                                                                                                                                                                                                                                                                                                                                                                                         New heregulin-like factor preparing a composition for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human heregulin-like factor (HLF) protein.
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                                                                                                                                                                                                                                         heregulin-like factor
                                                                                                                                                                                                                                                                                                                                                                                        Claim 1; SEQ ID NO 2; 48pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   N-PSDB; ADN48869
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Young PE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    17-JUN-1997;
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(HLF) protein.
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Pred. No. 2.3e-20;
Mismatches 0;
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10-MAY-1999 (first entry)

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09-JUL-1997;
24-JUL-1997;
                                                               21-JAN-1999
                                                                   Homo sapiens
                                                    Godowski PJ,
                                                            30-JUN-1998;
                                                                 WO9902681-A1
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CQ This is the extracellular domain (ECD, aa1-360 of human neuregulin CQ related ligand NRG3 (see also AAM97618), a novel member of the epidermal CC growth factor (EGF) -like family of protein ligands. NRG3 binds to the CR grbd receptor, but not to the ExbB2 or ExbB3 receptor, activates ExbB4 creceptor tyrosine phosphorylation. The invention provides human and CC murine polypeptides (see also AAM97617) that have at least 75% homology to the NRG3 ECD, as well as expression vectors, host cells and methods CC for the recombinant production of novel NRG3s. The NRG3 polypeptides and CC polynucleotides and can be used to enhance the survival, proliferation or CC differentiation of cells having the ExbB4 receptor in vivo and in vitro. CC They can be used to prevent or treat damage to a nerve or damage to other CC NRG3-expressing or NRG3-responsive cells, e.g. brain, heart, or kidney cells. In particular, they can be used to treat diseases which involve cells (e.g. multiple sclerosis). They can be used to treat patients whose nervous system has been damaged by e.g. trauma, surgery, stroke, cells (e.g. multiple sclerosis). They can be used to treat patients whose ischaemia, infection, metabolic disease, nutritional deficiency, stroke, cells palsy, conditions involving spinal muscular atrophy or paralysis, neurodegenerative disorders such as Alzheimer's disease, Farkinson's cellosase, epilepsy, multiple sclerosis, Huntington's chorea, Down's syndrome, hereditary neuropathies including Charcot-Marie-Tooth disease, and sease, metachromatic leukodystrophy, Fabry's disease including post-polio syndrome, hereachaemic, to treat disease of skeletal muscle of smooth muscle, screening contraction of transgenic or knockout animals or for drug screening.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Neuregulin related ligand; NRG3; hNRG3B1; human; ErbB4 receptor; signal transduction; nervous system disorder; neurodegeneration;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New isolated neuregulin related ligand-3 - used to develop products for treating nervous system disorders, e.g. stroke, ischaemia, infection, malignancy, Alzheimer's disease or Down's syndrome.
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97US-00899437.
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Mouse neuregulin related ligand NRG3 extracellular domain AAW97620 standard; protein; 362 10-MAY-1999 AAW97620 (first entry A

Neuregulin related ligand; NRG3; mouse; ErbB4 receptor; signal transduction; nervous system disorder; neurodegeneration; neuropathy; therapy; diagnosis.

Mus sp 09-JUL-1997; 24-JUL-1997; 30-JUN-1998; 21-JAN-1999 WO9902681-A1 97US-0052019P. 97US-00899437. 98WO-US013411.

(GETH ) GENENTECH INC

Godowski PJ, Mark MR, ū

WPI; 1999-120882/10

malignancy, Alzheimer's New isolated neuregulin related ligand-3 - used to develop products for treating nervous system disorders, e.g. stroke, ischaemia, infection, disorders, e.g. stroke, iso disease or Down's syndrome.

Claim 5(a); Page 62-63; 101pp; English

ARBSULT 7
ARAM97 AND ARAM97 AND ARAM97 AND ARAM97 AND ARAM9 AND AR CC This is the extracellular domain (ECD, aal-362) of murine neuregulin CC related ligand NRG3 (see also AAM97617), a novel member of the epidermal CC growth factor (EGF)-like family of protein ligands. NRG3 binds to the CC Erbb4 receptor, but not to the ExbB2 or ExbB3 receptor, activates ErbB4 creeptor tyrosine phosphorylation. The invention provides human and CC murine polypeptides (see also AAM97618) that have at least 75% homology to the NRG3 ECD, as well as expression vectors, host cells and methods CC for the recombinant production of novel NRG3s. The NRG3 polypeptides and CC polynucleotides and can be used to enhance the survival, proliferation or CC differentiation of cells having the ErbB4 receptor in vivo and in vitro. They can be used to prevent or treat damage to a nerve or damage to other CC RRG3 expressing or NRG3 responsive cells, e.g. brain, heart, or kidney CC cells. In particular, they can be used to treat diseases which involve CC RRG3 expressing or NRG3 responsive cells, e.g. brain, heart, or kidney CC cells (e.g. multiple sclerosis). They can be used to treat patients whose CC ischaemia, infection, metabolic disease, nutritional deficiency, Ecclidency, or toxic agents. NRG3 can also be used to treat patients whose CC ischaemia, infection, metabolic disease, nutritional deficiency, Ecclidence, conditions involving spinal muscular atrophy or paralysis, neurodegenerative disorders such as Alzheimer's disease, Parkinson's CC syndrome, nerve deafness, and Meniere's disease. They can also be used to treat motor neuron CC syndrome, hereditary neuropathies including Charcot Marie-Tooth disease, CC disease, metachromatic leukodystrophy, Fabry's disease and Dejerine-CC such as muscular dystrophy or diseases caused by skeletal or smooth muscle, for the production of transgenic or knockout animals or for drug

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1 HFKPCRDKDLAYCLNDGECFVIETLTGSHKHCRCKEGYQGVRCDQFL 47

Query Match Best Local : Matches

Local Similarity 100. nes 47; Conservative

100.0%;

Score 277; DB 2; Pred. No. 4.8e-20; ; Mismatches 0;

Length 360;

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Best Local S
Matches 47
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The invention relates to human neuregulin 55, polynucleotide for coding this polypeptide and a method for producing this polypeptide by using DNA recombination technique. The invention also discloses the method for curing several diseases, such as nervous system developmental diseases, neuropsychopathy, other nervous system diseases, development disturbance, rumours, inflammations and immunological disease by using said polypeptide. The invention also discloses an antagonist for resisting said polypeptide and its therapeutic action and also discloses the application of polynucleotide to coding this novel human neuregulin 55.
                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 1; Page 27-28
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         мао Y,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human neuregulin 55 SEQ ID NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     16-MAY-2002
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                                                                                                                                                                                                                                                                                                                                                                                                                                                              The present sequence is that of human neuregulin 55
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les 47; Conserv
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                                                                                                                                                                                                         1 HFKPCRDKDLAYCLNDGECFVIETLTGSHKHCRCKEGYQGVRCDQFL 47
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                                                                                                                                                                                                                                                                                                                      Similarity
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                                                                                                                                                                           HFKPCRDKDLAYCLNDGECFVIETLTGSHKHCRCKEGYQGVRCDQFL 138
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100.0%; 1
tive 0;
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                                                                                                                                                                                                                                                                                  Score 277; DB 5;
Pred. No. 6.6e-20;
Mismatches 0;
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Pred. No. 4.9e-20;
; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                           Length 502;
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AAW97619 standard; protein; 696

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CC neuregulin related ligand NRG3, a novel member of the epidermal growth CC factor (EGF)-like family of protein ligands that binds to the ErbB4 CC receptor, but not to the ErbB2 or ErbB3 receptor, and which activates CC ErbB4 receptor tyrosine phosphorylation. The sequence was deduced from CC brain library. hNGR3B2 lacks amino acids 529-52 of hNGR3B1 (see CC AAW97618) but retains the EGF- like domain and is expected to exhibit CC biological activity. The invention provides human and murine NRG3 CC polypaptides (see AAW97617), expression vectors, host cells and methods CC for the recombinant production of NRG3s. The NRG3 polypaptides and CC differentiation of cells having the ErbB4 receptor in vivo and in vitro. CC They can be used to prevent or treat damage to a nerve or damage to other CC cells. In particular, they can be used to treat diseases which involve neural cell growth such as demyelination, or damage or loss of gilal CC cells (e.g. multiple sclerosis). They can be used to treat patients whose CC ischaemia, infection, metabolic disease, nutritional deficiency, can infection, metabolic disease, nutritional deficiency, conditions involving spinal muscular atrophy or paralysis, neurodegenerative disorders such as Alzheimer's disease, Parkinson's CC disease, epilepsy, multiple sclerosis, Huntington's chorea, Down's
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New isolated neuregulin related ligand-3 - used to develop products for treating nervous system disorders, e.g. stroke, ischaemia, infection, malignancy, Alzheimer's disease or Down's syndrome.
                                                                                                                                                                                                                                                                                                                                                                                                                   This is the amino acid sequence of splice variant hNGR3B2 of human
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Example 1; Page 78-81; 101pp; English
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24-JUL-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human neuregulin related ligand NRG3
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           sduction; nervous system disorder; neurodegeneration; therapy; diagnosis; splice variant.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mark MR,
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97US-00899437.
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for O-linked
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     note= "EGF-like domain"
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Claim 5(a)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      note= "hydrophobic region"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "mucin-like Ser/Thr-rich
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   glycosylation"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (splice variant).
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RESULT 10
ABG32000
ID ABG32200
ID ABG322
XX ABG32
XX Nevel
XX Nepide
KW Pefsi
KW Autoric
KW Autoric
KW Autoric
XX Homo
PN US201
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PF 26-M
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Neuregulin related ligand; NRG3; neuroprotective; cell therapy; epidermal growth factor-like domain; BGF-like domain; Bell's palsy; ErbB4 receptor detection; amyotrophic lateral sclerosis; paralysis; lou Gehrig's disease; spinal muscullar atrophy; multiple sclerosis; neurodegenerative disorder; Alzheimer's disease; Parkinson's disease; epilepsy; Huntingdon's chorea; Down's syndrome; nerve deafness; Meniere's disease; neuropathy; distal syndrome; neuropathy; autonomic neuropathy; hereditary neuropathy; Charcot-Marie-Tooth disease; Refsum's disease; Abetalipoproteinaemia; Tangier disease; Krabbe's disease; Metachromatic leukodystrophy; Fabry's disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                syndrome, nerve deafness, and Meniere's disease. They can also be used to treat neuropathies associated with systemic disease including post-polio syndrome, hereditary neuropathies including Charcot-Warie-Tooth disease, Refsum's disease, abetalipoproteinemia, Tangier disease, Krabbe's disease, metachromatic leukodystrophy, Fabry's disease and Dejerine-sottas syndrome, to treat disease of skeletal muscle of smooth muscle, such as muscular dystrophy or disease caused by skeletal or smooth muscle wasting. The products can also be used for detection, diagnosis, for the production of transgenic or knockout animals or for drug
   The invention describes a polypeptide comprising an a encoding an epidermal growth factor (EGF)-like domain binding characteristics of neuregulin related ligand polypeptide can be used to detect ErbB4 receptor in a sample, and also to prevent or treat disorders associ
                                                                                                                                                                                                                                                               A new neuregulin related ligand designated NRG3 has an factor-like domain and binds to ErbB4 receptor, and is or treat NRG3 associated disorders, particularly nerve
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     24-JUL-1997;
30-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ABG32080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                         Example 1;
                                                                                                                                                                                                                                                                                                                                                                                                        N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Godowski
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     26-MAR-2001; 2001US-00817647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         27-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US2002082229-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Dejerine-Scottas syndrome; human; NRGB2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Novel human neuregulin related ligand NRG3B2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            05-NOV-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (GETH ) GENENTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              286
                                                                                                                                                                                                                                                                                                                                                                                                                                      2002-617760/66.
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                                                                                                                                                                                                                                                                                                                                                                                                           ABK90730
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ΡJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HFKPCRDKDLAYCLNDGECFVIETLTGSHKHCRCKEGYQGVRCDQFL 47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HFKPCRDKDLAYCLNDGECFVIETLTGSHKHCRCKEGYQGVRCDQFL 332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       696 AA;
                                                                                                                                                                                                  Fig 4A-B; 60pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mark MR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     97US-0053641P
98US-00107979
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Zhang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
      ypeptide comprising an amand having factor (EGF)-like domain, and having factor (HGF)-like domain, and having factor (HGF) in a mammalian mammalian in a mammalian with )
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 277; DB 2;
Pred. No. 8.9e-20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
             associated with NRG3 such
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 696;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                    amino acid sequence
                                                                                                                                                                                                                                                                   epidermal useful to damage.
                                                                       and having
NRG3). NRG3
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                                                                                                                                                                                                                                                                                                 growth
                                                                                                         the
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RESULT 11
AAW97617
ID AAW97617
AC AAW97
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local S
Matches 47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     as: amyotrophic lateral sclerosis (lou Gehrig's disease), Bell's palsy and various conditions involving spinal muscular atrophy or paralysis, neurodegenerative disorders such as Alzheimer's disease, Parkinson's disease, epilepsy, multiple sclerosis, Huntingdon's chorea, Down's syndrome, nerve deafness, Meniere's disease, neuropathy such as distal sensorimotor neuropathy or autonomic neuropathy, hereditary neuropathies such as Charcot-Marie-Tooth disease, Refsum's disease, Metachromatic Leukodystrophy, Fabry's disease, Refsum's disease, Metachromatic leukodystrophy, Fabry's disease and Dejerine-Scottas syndrome. This is the amino acid sequence of the novel human neurogulin related ligand
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAW97617;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAW97617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                       New isolated neuregulin
treating nervous system
malignancy, Alzheimer's
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mus sp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        neuropathy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Neuregulin related ligand; NRG3; mouse; ErbB4 receptor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mouse neuregulin related ligand NRG3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           10-MAY-1999
                                                                                                                                                                                                 Godowski PJ,
                                                                                                                                                                                                                                                                                             09-JUL-1997;
24-JUL-1997;
                                                                                                                                                                                                                                                                                                                                                                           30~JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO9902681-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Domain
                                                                                                                           N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                            21-JAN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Domain
                                                                                                                                                                                                                                                  (GETH ) GENENTECH INC
                                                                                                                         1999-120882/10.
DB; AAX06987.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                47;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  \vdash
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  transduction;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HFKPCRDKDLAYCLNDGECFVIETLTGSHKHCRCKEGYQGVRCDQFL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HFKPCRDKDLAYCLNDGECFVIETLTGSHKHCRCKEGYQGVRCDQFL 47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   sduction, nervous system disorder, neurodegeneration, therapy, diagnosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ΑA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first entry)
                                                                                                                                                                                                 Mark MR,
                                                                                                                                                                                                                                                                                                97US-0052019P.
97US-00899437.
                                                                                                                                                                                                                                                                                                                                                                           98WO-US013411.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     for O-linked glycosylation"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            66. .91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note= "EGF-like domain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note= "mucin-like Ser/Thr-rich
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note= "extracellular domain, specifically
Claim 5(a)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              'note= "transmembrane domain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   note= "hydrophobic region"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              . 286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .385
                       related ligand-3 - used to develop disorders, e.g. stroke, ischaemia, disease or Down's syndrome.
                                                                                                                                                                                                 Zhang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             713
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 277; DB 5;
Pred. No. 8.9e-20;
Mismatches 0
                                                                                                                                                                                                 Ö
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       region,
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Claim 5(b);

Page 59-62; 101pp; English

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                                                                                  Neuregulin related ligand; NRG3; neuroprotective; cell therapy; epidermal growth factor-like domain; EGF-like domain; Bell's palsy; ExbB4 receptor detection; amyotrophic lateral sclerosis; paralysis; lou Gehrig's disease; spinal muscular atrophy; multiple sclerosis; neurodegenerative disorder; Alzheimer's disease; Parkinson's disease; epilepsy; Huntingdon's chorea; pown's syndrome; nerve deafness; Meniere's disease, neuropathy; disease; Syndrome; neuropathy; hereditary neuropathy; Charcot-Marie-Tooth disease; Refsum's disease; Abetalipoproteinaemia; Tangier disease; Krabbe's disease; Metachromatic leukodystrophy; Fabry's disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bell's palsy, conditions involving spinal muscular atrophy or paralysis, neurodegenerative discorders such as Alzheimer's disease, Parkinson's disease, epilepsy, multiple sclerosis, Huntington's chorea, Down's syndrome, nerve deafness, and Meniere's disease. They can also be used to treat neuropathies associated with systemic disease including post-polio syndrome, hereditary neuropathies including Charcot-Marie-Tooth disease, Refsum's disease, abecalipoproteinemia, Tangier disease, Krabbe's disease, metachromatic leukodystrophy, Fabry's disease and Dejerine-sottas syndrome, to treat disease of skeletal muscle of smooth muscle, such as muscular dystrophy or disease of skeletal muscle of smooth muscle wasting. The products can also be used for detection, diagnosis, for the production of transgenic or knockout animals or for drug
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      neuregulins. The invention provides human and murine NRG3 polypeptides (see also AAW97618), expression vectors, host cells and methods for the recombinant production of NRG3s. The NRG3 polypeptides and polynucleotides and can be used to enhance the survival, proliferation or differentiation of cells having the ErbB4 receptor in vivo and in vitro. They can be used to prevent or treat damage to a nerve or damage to other NRG3-expressing or NRG3-responsive cells, e.g. brain, heart, or kidney cells. In particular, they can be used to treat diseases which involve neural cell growth such as demyelination, or damage or loss of glial cells. G. multiple sclerosis). They can be used to treat patients whose
                                                                                                                                                                                                                                                                                                                                                                               Mouse novel neuregulin related ligand NRG3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   nervous system has been damaged by e.g. trauma, surgery, stroke, ischaemia, infection, metabolic disease, nutritional deficiency, malignancy, or toxic agents. NRG3 can also be used to treat motor neuron disorders such as amyotrophic lateral sclerosis (Lou Gehrig's disease),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   of cDNA clones (see AAX06987) from a mouse brain library. The EGF-like domain of NRG3 is distinct from those of NRG1 or NRG2, and NRG3 displays receptor binding characteristics that are distinct from those of other
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This is the amino acid sequence of murine neuregulin related ligand NRG3, a novel member of the epidermal growth factor (EGF)-like family of protein ligands that binds to the ErbB4 receptor, but not to the ErbB2 or ErbB3 receptor, and which activates ErbB4 receptor tyrosine phosphorylation. The sequence was deduced from the nucleotide sequences of cDNA clones (see AAX06987) from a mouse brain library. The EGF-like
                                                                                                                                                                                                                                                                                                                                                                                                                                    05-NOV-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ABG32061 standard; protein; 713 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 713
                                                                       Dejerine-Scottas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 288
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47; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100.0%; Score 277; DB 2; illarity 100.0%; Pred. No. 9.1e-20; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
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                                                                       syndrome; mouse
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neuropathy;

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RESULT 13
AAW97618
ID AAW97618
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Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The invention describes a polypeptide comprising an amino acid sequence encoding an epidermal growth factor (EGP)-like domain, and having the binding characteristics of neurogulin related liggand (NRG3). NRG3 polypeptide can be used to detect ErbB4 receptor in a mammalian tissue sample, and also to prevent or treat disorders associated with NRG3 such as: amyotrophic lateral sclerosis (lou Gehrig's disease), Bell's palsy and various conditions involving spinal muscular atrophy or paralysis, neurodegenerative disorders such as Alzheimer's disease, Parkinson's disease, parkinson's
                                 Neuregulin related ligand; NRG3; hNRG3B1; human; ErbB4 receptor; signal transduction; nervous system disorder; neurodegeneration;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                sensorimotor neuropathy or autonomic neuropathy, hereditary neuropathies such as Charcot-Marie-Tooth disease, Refsum's disease, Such as Charcot-Marie-Tooth disease, Refsum's disease, Metachromatic Abetalipoproteinaemia, Tangier disease, Krabbe's disease, Metachromatic leukodystrophy, Fabry's disease and Dejerine-Scottas syndrome. This is the camino acid sequence of the novel mouse neuregulin related ligand
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A new neuregulin related ligand designated NRG3 has an epidermal factor-like domain and binds to ErbB4 receptor, and is useful to or treat NRG3 associated disorders, particularly nerve damage.
                                                                                                                           10-MAY-1999
                                                                                                                                                             AAW97618
                                                                                                                                                                                               AAW97618 standard; protein; 720
                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 713 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        disease, epilepsy, multiple sclerosis, Huntingdon's chorea, Down's syndrome, nerve deafness, Meniere's disease, neuropathy such as distal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N-PSDB;
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30-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Example 1; Fig 4A-B; 60pp; English
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    26-MAR-2001; 2001US-00817647
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                                                                                                                                                                                                                                                                                     288 HFKPCRDKDLAYCLNDGECFVIETLTGSHKHCRCKEGYQGVRCDQFL 334
                                                                                      neuregulin
                                                                                                                                                                                                                                                                                                         1 HFKPCRDKDLAYCLNDGECFVIETLTGSHKHCRCKEGYQGVRCDQFL 47
                                                                                                                                                                                                                                                                                                                                                            47;
                                                                                                                                                                                                                                                                                                                                                                             Similarity
              sduction; nervous system disorder; neurodegeneration;
therapy; diagnosis.
                                                                                                                                                                                                                                                                                                                                                            Conservative
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98US-00107979.
                                                                                      related ligand
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domain. Specifically claimed in claim 2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1. .362
/label= Extracellular_domain
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  'label= EGF-like
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                note= "Specifically claimed in claim
                                                                                                                                                                                                                                                                                                                                                                           100.0%; Score 277; DB 5; 100.0%; Pred. No. 9.1e-20;
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                                                                                        NRG3
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CC This is the amino acid sequence of human neuregulin related ligand NRG3, CC a novel member of the epidermal growth factor (EGF)-like family of protein ligands that binds to the ErbB4 receptor, but not to the ErbB2 or CC protein ligands that binds to the ErbB4 receptor tyrosine composition. The sequence was deduced from the mucleotide sequence of CC a cDNA clone (see AAX6988) from a feetal brain library. The EGF-like C domain of NRG3 is distinct from those of NRG1 in NRG2, and NRG3 displays creeptor binding characteristics that are distinct from those of other composition of the composition of colls having the ErbB4 receptor in vivo and in vitro. The polymentation of cells having the ErbB4 receptor in vivo and in vitro. They can be used to prevent or treat damage to a nerve or damage to other C calls. In particular, they can be used to treat diseases which involve cells (e.g. multiple sclerosis). They can be used to treat diseases which involve C neural cell growth such as demyclination, or damage or loss of glial C cells (e.g. multiple sclerosis). They can be used to treat patients whose c nervous system has been damaged by e.g. trauma, surgery, stroke, ischaemia, infection, metabolic disease, mutritional deficiency, conditions involving spinal muscular atrophy or paralysis, C merodegenerative discorders such as amyotrophic lateral sclerosis; fluo Gehrig's disease), pallypy, multiple sclerosis, Huntington's chorea, Down's c disease, metabromatic leukodystrophy, Fabry's disease. Fray can also be used to treat metabolic especial with systemic disease including post-polic syndrome, hereditary neuropathies including Charcot-Marie-Tooth disease, c Refeum's disease, abetalipoproteinemia, Tangier disease, Krabbe's cused to treat disease, krabe's contact disease, sease, krabe's contact disease of skeletal muscle of smooth muscle, contact of the pro
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New isolated neuregulin
treating nervous system
malignancy, Alzheimer's
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24-JUL-1997;
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97US-00899437
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     . 91
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RESULT 14
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                                                                                                                    This sequence is the human heregulin-like factor (HLF) of the invention. The HLF is involved in the regulation of cell growth. Detection of different levels of expression of the HLF gene can be used for the diagnosis of disorders, e.g. in the neural system. In particular, detection of different levels of HLF gene expression in cells or body fluid of an individual can be used for diagnosing cancer. The products can also be used in the treatment of disorders involving abnormal levels of HLF activity
                                                                                                                                                                                                                                                                                                                                                          (GEOU )
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 720
                                                                                               Sequence 720 AA;
                                                                                                                                                                                                                                   Disclosure; Page 97-99; 118pp; English.
                                                                                                                                                                                                                                                                     New isolated heregulin-like factor - used to develop products for the diagnosis and treatment of disorders involving regulation of cell growth,
                                                                                                                                                                                                                                                                                                           WPI; 1999-095327/08
                                                                                                                                                                                                                                                                                                                                 Young
                                                                                                                                                                                                                                                                                                                                                                                                                                                23-DEC-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WO9857989-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       neural system
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human heregulin-like factor; HLF; cell growth regulator; diagnosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human heregulin-like factor sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  06-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAY05452;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     screening
                                                                                                                                                                                                                                                           particularly cancers.
                                                                                                                                                                                                                                                                                                                                                                                               17-JUN-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                       16-JUN-1998;
 286
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                       1 HFKPCRDKDLAYCLNDGECFVIETLTGSHKHCRCKEGYQGVRCDQFL 47
                                                                                                                                                                                                                                                                                                                                                            UNIV GEORGETOWN
                                                                                                                                                                                                                                                                                                                                                                         HUMAN GENOME SCI INC
                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HFKPCRDKDLAYCLNDGECFVIETLTGSHKHCRCKEGYQGVRCDQFL
HFKPCRDKDLAYCLNDGECFVIETLTGSHKHCRCKEGYQGVRCDQFL 332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   standard; protein;
                                                                                                                                                                                                                                                                                                                                  Ruben SM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     disorder; cancer
                                                                                                                                                                                                                                                                                                                                                                                               97US-0049942P
                                                                                                                                                                                                                                                                                                                                                                                                                       98WO-US012403
                                               100.0%; Score 277; DB 2;
100.0%; Pred. No. 9.2e-20;
. Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                  King
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Pred. No. 9.2e-20;
D; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                   Hijazi MM
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ABG32065 ID ABG3 XX

ABG32065 standard;

protein; 720

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RESULT 15

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The invention describes a polypeptide comprising an amino acid sequence cencoding an epidermal growth factor (EGF)-like domain, and having the binding characteristics of neuregulin related ligand (NRG3) NRG3 completed can be used to detect ExbB4 receptor in a mammalian tissue sample, and also to prevent or treat disorders associated with NRG3 such as: amyotrophic lateral sclerosis (lou Gehrig's disease), Bell's palsy and various conditions involving spinal muscular atrophy or paralysis, neurodegenerative disorders such as Alzheimer's disease, Parkinson's disease, Parkinson's multiple sclerosis, Huntingdon's chorea, Down's syndrome, nerve deafness, Meniere's disease, neuropathy such as distal sensorimotor neuropathy or autonomic neuropathy, hereditary neuropathies scharcot-Marie-Tooth disease, Refaum's disease, Metachromatic leukodystrophy, Fabry's disease and Dejerine-Scottas syndrome. This is the amino acid sequence of the novel human neuregulin related ligand
Query Match 100.0%; Score 277; DB 5; Best Local Similarity 100.0%; Pred. No. 9.2e-20; Matches 47; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Neuregulin related ligand; NRG3; neuroprotective; cell therapy; epidermal growth factor-like domain; EGF-like domain; Bell's palsy; ErbB4 receptor detection; amyotrophic lateral sclerosis; paralysis; lou Gehrig's disease; spinal muscular atrophy; multiple sclerosis; neurodegenerative disorder; Alzheimer's disease; Parkinson's disease; epilepsy; Huntingdon's chorea; Down's syndrome; nerve deafness; Meniere's disease; neuropathy; distal sensorimotor neuropathy; autonomic neuropathy; hereditary neuropathy; Charcot-Marie-Tooth disease; Refsum's disease; Abetalipoproteinaemia; Tangier disease; ktabbe's disease; Metachromatic leukodystrophy; Fabry's disease; bejerine-Scottas syndrome; human; gene; ss; NRG3B1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A new neuregulin related ligand designated NRG3 has an epidermal growth factor-like domain and binds to ErbB4 receptor, and is useful to prevent or treat NRG3 associated disorders, particularly nerve damage.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2002-617760/66.
N-PSDB; ABK90731.
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Domain
                                                                               Sequence 720 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Godowski PJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             24-JUL-1997;
30-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Example 1; Fig 4A-B; 60pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               27-JUN-2002.
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98US-00107979.
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/note= "Specifically claimed in claim 5"
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/note= "Extracellular epidermal growth factor-like
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286 HFKPCRDKDLAYCLNDGECFVIETLTGSHKHCRCKEGYQGVRCDQFL 332
                   1 HFKPCRDKDLAYCLNDGECFVIETLTGSHKHCRCKEGYQGVRCDQFL 47
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           Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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seq length: 2000000000
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1: /cgn2 6/ptodata/1.

2: /cgn2 6/ptodata/1.

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US-08-126-121-2
US-08-126-121-1
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113.5	113.5	113.5	113.5	113.5	113.5	113.5	113.5	113.5	113.5	113.5	113.5	113.5	113.5	113.5	113.5	113.5	113.5
41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0		41.0	41.0	41.0	41.0
83	83	66	66	66	66	66	66	65	63	63	63	63	63	63	54	53	52
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US-08-470-335-225	US-08-341-018-70	PCT-US92-04295A-10	US-09-101-544-2	US-09-020-880-2	US-08-456-241-10	US-08-456-201-10	US-07-847-743B-10	US-08-411-295F-136	US-08-411-295F-98	US-08-411-295F-55	US-08-467-602-415	US-08-470-339-221	US-08-470-335-221	US-08-341-018-62	US-08-179-481-111	US-09-097-681-17	US-08-761-038-3
Sequence 225, App	Sequence 70, Appl	Sequence 10, Appl	Sequence 2, Appli	Sequence 2, Appli	-	Sequence 10, Appl	יכי	•	Sequence 98, Appl	Þ	Sequence 415, App	Sequence 221, App	•	×	Sequence 111, App	Sequence 17, Appl	Sequence 3, Appli

#### ALIGNMENTS

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                                                        Query Match
Best Local S
Matches 47
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Patent No. 6121415
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                      TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER REALABLE FORM:

MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatin (Genentech)
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                          SEQUENCE CHARACTERISTICS:
LENGTH: 47 amino acids
TYPE: Amino Acid
TOPOLOGY: Linear
                                                                                                                                                                                                                                                                                                                                                                                                                ATTORNEY/AGENT INFORMATION:
NAME: Conley, Deirdre L.
REGISTRATION NUMBER: 36,
                                                                                                                                                                                                                                                                                                                                                                       TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Godowski, Paul J., Mark, Melanie Ro
TITLE OF INVENTION: ErbB Receptor-Specific New
TITLE OF INVENTION: Ligands and Uses Therefor
                                                                                                                                                                                                                            FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQUENCES: 2
                                                                                                                                                  IDENTIFICATION METHOD: OTHER INFORMATION:
                                                                                                                                                                                       NAME/KEY: NRG3 EGF-like domain/amino acid seq LOCATION: 1-47
                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE/DOCKET NUMBER: 91084R1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE: 24
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US/08/899,437 FILING DATE: 24-Jul-1997
                                                                                                                                                                                                                                                                                                                                     TELEPHONE: 650/225-2066
TELEFAX: 650/952-9881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COUNTRY:
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1 HFKPCRDKDLAYCLNDGECFVIETLTGSHKHCRCKEGYQGVRCDQFL
                                                        Similarity 47; Conserv
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                                                        100.0%; ilarity 100.0%; Conservative 0,
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ErbB Receptor-Specific Neuregulin Related
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                                                      Score 277; DB 3;
Pred. No. 3.1e-26;
); Mismatches 0;
                                                                                         Length 47;
                                                          Indels
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HFKPCRDKDLAYCLNDGECFVIETLTGSHKHCRCKEGYQGVRCDQFL 47

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RESULT 3
US-09-126-121-4
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Patent No. 6121415
                                                                                                                                                                                                                                                                          Sequence 4, Application US/09126121
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                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                           Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 47 amino acids
                                                                                                                                                                                                                      GENERAL INFORMATION:
APPLICANT: Godows
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MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk

COMPUTER: IBM PC compatible

COMPUTER: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OPERATING SYSTEM: PC-DOS/MS-DOS/TWARE: WinPatin (Genentech)
CURRENT APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Godowski, Paul J., Mark, Melanie Rose, Zhang, Dong
TITLE OF INVENTION: ErbB Receptor-Specific Neuregulin Related
TITLE OF INVENTION: Ligands and Uses Therefor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELECOMMUNICATION INFORMATION: TELEPHONE: 650/225-2066
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                                                                                                                                       CORRESPONDENCE ADDRESS
COMPUTER READABLE FORM:
                                                                                                                                                       ITLE OF INVENTION: ErbB Receptor-Specific NeITLE OF INVENTION: Ligands and Uses Therefor UMBER OF SEQUENCES: 23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: US/08/899,437 FILING DATE: 24-Jul-1997 CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME: Conley, Deirdre L. REGISTRATION NUMBER: 36, REFERENCE/DOCKET NUMBER:
                                                                                                 STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OTHER INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME/KEY: NRG3 EGF-like domain/amino acid seq LOCATION: 1-47
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                                   COUNTRY:
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                                                                                                                    ADDRESSEE:
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                                                        T: 1 DNA Way
South San Francisco
California
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                                                                                                                    Genentech, Inc
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Patent No. 6252051
GENERAL INFORMATION:
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Best Local 9
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                        TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 47 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEFAX: 650/952-9881 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: ITM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatin (Genentech)
CURRENT APPLICATION DATA:
                                                                                                                          ATTORNEY/AGENT INFORMATION:
NAME: Conley, Delrdre L.
REGISTRATION NUMBER: 36,487
REFERENCE/DOCKET NUMBER: P10
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE: WinPatin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION UNMEBER: US/09/126,
FILING DATE: 30-Jul-1998
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
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REGISTRATION NUMBER: 36
REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                          APPLICATION NUMBER: US/09/126,121 FILING DATE: 30-Jul-1998 CLASSIFICATION:
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TYPE: Amino Acid
IOPOLOGY:
                                                                                                              CELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ch 100.0%; Score 277; DB 3; Similarity 100.0%; Pred. No. 3.1e-26; 47; Conservative 0; Mismatches 0;
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                  Amino Acid
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ErbB Receptor-Specific Neuregulin Related
Ligands and Uses Therefor
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3ER: P1084R1D1
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RESULT 6
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US-09-553-769-6
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LENGTH: 48
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                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILE REFERENCE: 00/20522
CURRENT APPLICATION NUMBER: US/09/553,769
CURRENT FILING DATE: 2000-04-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQ ID NOS: 18
SOFTWARE: PatentIn version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Yarden, Yosef
TITLE OF INVENTION: NOVEL GROWTH FACTOR WHICH ACTS THROUGH ErbB-4 RECEPTOR TYROSINE
TITLE OF INVENTION: SEQUENCES ENCODING SAME AND USES THEREOF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Harari, Daniel APPLICANT: Yarden, Yosef
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM: Mus musculus
                                                                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                      SOFTWARE: PatentIn Release #1.0, CURRENT APPLICATION DATA:
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PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                          CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                          APPLICANT: Hijázi, Mai
APPLICANT: Ruben, Steve
TITLE OF INVENTION: Heregulin-Like Factor
NUMBER OF SEQUENCES: 22
                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
                                                                                                                                                                                                                                 ADDRESSEE: Human Genome Sciences, Inc
STREET: 9410 Key West Avenue
CITY: Rockville
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                 FILING DATE:
CLASSIFICATION:
                                                       APPLICATION NUMBER:
                                                                                                                                                                                COUNTRY: U
                                                                                                                                                                                                                        STATE:
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King, C. Richter
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Pred. No. 3.1e-26;
D; Mismatches O;
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Pred. No. 3.1e-26;
; Mismatches 0;
                                                                                       Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 48;
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GENERAL INFORMATION:
APPLICANT: Godows)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
Matches 47; Conserv
Query Match 100.0%; Score 277; DB 3;
Best Local Similarity 100.0%; Pred. No. 2.5e-25;
Matches 47; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                     TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS:
LENGTH: 360 amino acid
                                                                                                                                                                                                                                                                                         REFERENCE/DOCKET NUMBER: P1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-2066
                                                                                                                                                                                                                                                                                                                                          CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Conley, Deirdre L.
REGISTRATION NUMBER: 36,487
                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/899,4:
FILING DATE: 24-Jul-1997
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS:
LENGTH: 157 amino acids
TYPE: amino acid
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REFERENCE/DOCKET NUMBER: PF
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                FEATURE:
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MEDIUM TYPE: 3.5 inc
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FILING DATE: 17-JUN-1997
ATTORNEY/AGENT INFORMATION:
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                                                                                                                          NAME/KEY:
LOCATION:
                                                                                        IDENTIFICATION METHOD: OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NAME: Hoover, Kenley K.
NAME: Hoover, Kenley K.
10,302
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     94080
                                                                                                                                                                                                : 360 amino acids
Amino Acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      USA
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                                                                                                                            hNRG3 extracellular domain/Amino AcidSeq 1-360
                                                                                                                                                                               Linear
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Pred. No. 1.1e-25;
Mismatches 0;
                                 Length 360;
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US-09-126-121-7
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Patent No. 6121415
GENERAL INFORMATION:
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Best Local Similarity
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Patent No. 6252051
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NAME/KEY:
LOCATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/126,121
FILING DATE: 30-Jul-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CLASSIFICATION:
ATTORNAY/AGENT INFORMATION:
NAME: Conley, Deirdre L.
REGISTRATION NUMBER: 36,487
REFERENCE/DOCKET NUMBER: P10
                                                                        TITLE OF INVENTION: ErbB Receptor-Specific New TITLE OF INVENTION: Ligands and Uses Therefor NUMBER OF SEQUENCES: 23
CORRESPONDENCE ADDRESS:
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                                    STREET:
                                                        ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LENGTH: 360 amino acids
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South San Francisco
California
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                                                        Genentech, Inc.
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                                                                                                                                  paul J., Mark, Melanie Rose, Zhang, Dong Xiao
ErbB Receptor-Specific Neuregulin Related
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US-09-126-121-3
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Best Local Similarity
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INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 362 amino acids
TYDE: 7-1-1-1
               TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
                                                                 CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: Conley, Deirdre L.
REGISTRATION NUMBER: 36,487
REFERENCE/DOCKET NUMBER: P108
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
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MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatin (Genentech)
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MEDIUM TYPE: 3.5 inch, 1.44 Mb
COMPUTER: IEM FC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Godowski, Paul J., Mark, Melanie Rose, Zhang, Dong Xiao TITLE OF INVENTION: ErbB Receptor-Specific Neuregulin Related TITLE OF INVENTION: Ligands and Uses Therefor NUMBER OF SEQUENCES: 23
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CURRENT APPLICATION DATA:
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SEQUENCE CHARACTERISTICS:
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ZIP: 940
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REGISTRATION NUMBER: 36
REFERENCE/DOCKET NUMBER:
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OTHER INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                CITY: South San Francisco
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                                                     TELEPHONE:
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24-Jul-1997
N: מיי
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                 ID NO: 3:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%; Score 277; DB 3; 100.0%; Pred. No. 2.5e-25;
                                                                                                                                                                                                                                            (Genentech)
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                                                                                                                                                                                                                                                                                                     1.44 Mb floppy disk
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US-09-126-121-23

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Query Match
Best Local Similarity
Watches 47; Conserve
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                                                                                                     Query Match
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INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Godowski, Paul J., Mark, FITLE OF INVENTION: ExbB Receptor-SpeTITLE OF INVENTION: Ligands and Uses NUMBER OF SEQUENCES: 23
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                NAME: Conley, Deirdre L.
REGISTRATION NUMBER: 36,487
REFERENCE/DOCKET NUMBER: P10
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch., 1.44 Mb floppy
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                           SEQUENCE CHARACTERISTICS:
LENGTH: 696 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOFTWARE: WinPatin (Ge
CURRENT APPLICATION DATA:
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                                                                                                                                                                                        NAME/KEY:
LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: FILING DATE: 24-Jul CLASSIFICATION: 43:
                                                                                                                                                    IDENTIFICATION METHOD:
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                 TELEPHONE:
                                                                                    Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CITY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IDENTIFICATION METHOD: OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TOPOLOGY: Linear
                                                                                                                                                                                                                                              COPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADDRESSEE:
286 HFKPCRDKDLAYCLNDGECFVIETLTGSHKHCRCKEGYQGVRCDQFL 332
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 HFKPCRDKDLAYCLNDGECFVIETLTGSHKHCRCKEGYQGVRCDQFL 47
                              1 HFKPCRDKDLAYCLNDGECFVIETLTGSHKHCRCKEGYQGVRCDQFL 47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  94080
                                                                  Similarity 100, 47; Conservative
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California
                                                                                                                                                                                                                                                            Rmino Acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              : 362 amino
Amino Acid
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1-696
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                         24-Jul-1997
                                                                 100.0%; Score 277; DB 3; 100.0%; Pred. No. 4.9e-25; tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100.0%; Score 277; DB 3; 100.0%; Pred. No. 2.5e-25; tive 0; Mismatches 0;
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                                                                                                 Length 696;
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RESULT 12

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Best Local Similarity 100.
Matches 47; Conservative
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APPLICANT: Godows
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COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatin (Genentech)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Godowski, Paul J., Mark, Melanie Rose, Zhang, Dong
TITLE OF INVENTION: ErbB Receptor-Specific Neuregulin Related
TITLE OF INVENTION: Ligands and Uses Therefor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE CHARACTERISTICS:
LENGTH: 696 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELECOMMUNICATION INFORMATION: TELEPHONE: 650/225-2066
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION: ErbB Receptor-Specific Neterology in the second of t
                                                                                                                                                                                                                                                                                                                                                                                                                                                       CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATTORNEY/AGENT INFORMATION:
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                                                                                                                                                                                                                                                                                         CITY: South San Francisco STATE: California
                                                                                                                                                                                                                                                                                                                                                                               STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IDENTIFICATION METHOD:
OTHER INFORMATION:
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REGISTRATION NUMBER: 36,
REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: US/0 FILING DATE: 30-Jul-1998 CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatin (Genentech)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STREET: 1 DNA Way
CITY: South San Francisco
STATE: California
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME/KEY:
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                                                                                                                                                                                                        94080
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Amino Acid
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/ENTION: ErbB Receptor-Specific Neuregulin Related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Linear
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100.0%; Pred. No. 4.9e-25;
ative 0; Mismatches 0;
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CURRENT APPLICATION DATA:

APPLICATION NUMBER: FILING DATE: 24-Ju CLASSIFICATION: 43

24-Jul-1997

US/08/899,437

TELECOMMUNICATION INFORMATION:

REFERENCE/DOCKET NUMBER: NAME: Conley, Deirdre REGISTRATION NUMBER: 3

36,487

P1084R1

TELEPHONE:

2:

ATTORNEY/AGENT INFORMATION:

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RESULT 14
U%-09-126-121-2
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Patent No. 6252051
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                                                                                                                TELEFAX: 650/352-50-1
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
312 amino acids
                                                                                                                                                                                                            CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: Conley, Deirdre L.
REGISTRATION NUMBER: 36,487
REFERENCE/DOCKET NUMBER: P108
TELECOMMUNICATION INFORMATION:
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 713 amino acids
TYPE: Amino Acid
                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 mb floppy disk
COMPUTER: IBM PC compatible
ODERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Godowski, Paul J., Mark, Melanie Rose, Zhang, Dong
TITLE OF INVENTION: ErbB Receptor-Specific Neuregulin Related
TITLE OF INVENTION: Ligands and Uses Therefor
                                                                                                                                                                                                                                                                                                                                SOFTWARE: WinPatin (Ge:
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US
FILING DATE: 30-Jul-19
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LOCATION: 1-713
IDENTIFICATION METHOD:
OTHER INFORMATION:
NAME/KEY: Mouse NRG3
LOCATION: 1-713
IDENTIFICATION METHOD:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COUNTRY:
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T: 1 DNA Way
South San Francisco
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                                                                                              Amino Acid
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                    Mouse NRG3 (mNRG3)/amino acid seq. 1-713
                                                                              Linear
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Search completed: May

4, 2005, 12:08:38

Job time : 44 secs

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Best Local Similarity 100.0%; Pred. No. 5e-25;
Matches 47; Conservative 0; Mismatches
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Patent No. 6121415
                                                                                                                                                          Matches
                                                                                                                                                                                                                                   Query Match
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APPLICANT: Godows
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOFTWARE: WinDatin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/899,437
FILING DATE: 24-Jul-1997
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE CHARACTERISTICS:
LENGTH: 720 amino acids
TYPE: Amino Acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME: CONTEY, Deirdre L.
REGISTRATION NUMBER: 36,487
REFERENCE/DOCKET NUMBER: P1
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM:

MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IREA PC compatible
COMPUTER: COMPATIBLE COMPATIBLE
COMPUTER: COMPATIBLE
COMP
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OTHER INFORMATION:
                                                                                                                                                                                                   Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CITY: South San Francisco
STATE: California
                                                                                                                                                                                                                                                                                                                                                     IDENTIFICATION METHOD: OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER: IBM PC
OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME/KEY:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IOPOLOGY:
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                                                                                                                                                          Conservative
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                                                                                                                                                                                               100.0%; Score 277; DB 3; 100.0%; Pred. No. 5.1e-25;
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                                                                                                                                                                                                                                       Length 720;
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Result
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq length: 200000000
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     Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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Query
Match
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136.748 Million cell updates/sec
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1: uniprot_sprot:*
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                                      HFKPCRDKDLAYCLNDGECF.....SHKHCRCKEGYQGVRCDQFL 47
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Copyright (c) 1993 - 2005 Compugen Ltd.
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O7rtv8 homo sapien
O9esa9 rattus norv
O9esa9 rattus norv
O9est0 rattus norv
O9etx4 mus musculu
O8wwg1 homo sapien
O7rtw0 homo sapien
O7112 bos taurus
O15491 homo sapien
O6icv5 homo sapien
O6icv5 homo sapien
O7rtw0 homo sapien
O7rtw0 homo sapien
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	37.0 323 Q9ESA2 Q9ESA2 37.0 342 Q9ESA1 Q9ESA1 37.0 662 1 NRG1 RAT P43322 37.0 700 2 Q9ESB1 37.0 702 Q9ESB1 37.0 702 Q9ESB5 35.7 89 2 Q91MZ0 35.6 602 1 NRG1 CHICK Q9ESA5 35.7 89 2 Q91MZ0 35.6 602 1 NRG1 CHICK Q91mZ0 35.6 79 2 Q01MZ0 35.6 602 1 NRG1 CHICK Q91mZ1 35.6 602 1 NRG2 BRARE Q90Y54 36.0 1213 1 JAG3 BRARE Q90Y54 37.7 58 2 Q86MJ0 37.7 58	45	44	43	42	41	40	39	38	37	36	35	34	33	32
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323 2 O9ESA2 342 2 O9ESA1 662 1 NRG1 RAT 700 2 O9ESB1 782 2 O9ESA5 89 2 O91MZO 602 1 NRG1_CHICK 797 2 O70IG6 54 2 O810X1 2192 2 O01768 1213 1 JAG3_BRARE 1213 1 JAG3_BRARE 58 2 Q86M3_BRARE 58 1 NRG2_RAT 868 1 NRG2_RAT	2 Q9ESA2 Q9esa2 2 Q9ESA1 Q9esa1 1 NRG1 RAT P43322 2 Q9ESB1 Q9esb1 2 Q9ESB1 Q9esb1 2 Q9ESA5 Q9esb2 2 Q91M20 Q91M20 1 NRG1_CHICK Q7Q1M20 1 NRG1_CHICK Q7Q1M20 2 Q7QIQ6 Q810X1 Q01788 2 Q01768 Q910X1 2 Q01768 Q910X1 2 Q01768 Q910X1 1 NRG2_RAT Q15559	32.5	32.5	32.7	33.0	33.4	35.0	35.4	35.6	35.7	37.0	37.0	37.0	37.0	37.0
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QSESA2 QSESA1 NRG1 RAT QSESB1 QSESB5 QSLMZ0 NRG1 CHICK Q70IQ6 QB10X1 Q01768 QB10X1 Q01768 JAG3 BRARE Q86W30 NRG2_RAT NRG2_RAT	AT Q9esa2 Q9esa1 Q9esb1 Q9esb1 Q9esb1 Q9esb2 Q9inzo Q9inzo Q9inzo Q9inzo Q05199 Q05199 Q05199 Q05199 Q05299	_	ר	N	_	N	N	N	۲	N	N	N	_	N	2
	Q9esal Q9esal P43322 Q9esbl Q9esbl Q9esbl Q9fimzo Q05199 Q05199 Q07194 Q810x1 Q01768 Q90Y54 Q86wj0 Q155569	NRG2_RAT	NRG2_HUMAN	Q86WJ0	JAG3_BRARE	001768	Q810X1	Q7Q1Q6	NRG1_CHICK	Q91MZ0	Q9ESA5	Q9ESB1	NRG1_RAT	Q9ESA1	Q9ESA2

# ALIGNMENTS

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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its	IMILARITY: Belongs to the neuregulin family. SIMILARITY: Contains 1 EGF-like domain.	-!- PTM: Extensive glycosylation precedes the proteolytic cleavage (By similarity)	-!- PTM: Proteolytic cleavage close to the plasma membrane on the external face leads to the release of the soluble growth factor	-!- DOMAIN: ERBB receptor binding is elicited entirely by the EGF-like domain (By similarity).	of trafficking and proteolytic processing. Regulation of the proteolytic processing involves initial intracellular domain dimerization (By similarity).	The cytoplasmic domain may be involved in the regul	ochlear, and spina , and numerous bra	neurons	-!- TISSUE SPECIFICITY: Expressed in sympathetic, motor, and sensory	a proteolytically released soluble growth factor form. The membrane-bound form does not seem to be active (By similarity).	EKBB2 OF EKBB3 receptors.	activation of the receptor. Does not bind to the EGF receptor,	UNCTION: Direct ligand for the ERBB4 tyrosine kinase recepto	binds and activates ErbB4."; Proc. Natl. Acad. Sci. U.S.A. 94:9562-9567(1997).	egulin-3 (NRG3)	Zhang D., Sliwkowski M.X., Mark M., Frantz G., Akita R., Sun Y.,	4.18	SEQUENCE FROM N.A.		Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia: Eutheria: Rodentia: Sciurognathi: Muridae: Murinae: Mus.		,	. 44, Last annotation precursor (Pro-NRG3)	2001 (Rel. 40, Creat 2001 (Rel. 40, Last	81;	ILT 1 NGUSE STANDARD; PRT; 713 AA.	

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RESULT
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Best Local
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P56975;
16-OCT-2001
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DOMAIN
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DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro; IPR002154; Neuregul
pfam; PF00008; EGF; 1.
pfam; PF02158; Neuregulin; 1.
pROSITE; PS00022; EGF_1; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; AF010130; AAB70914.1; PIR; T44447; T44447.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       use by non-profit institutions as low modified and this statement is not removentities requires a license agreement (S. or send an email to license@isb-sib.ch).
                                                        MEDLINE=97420720; pubMed=9275162; DOI=10.1073/pnas.94.18.9562; Zhang D., Silwkowski M.X., Mark M., Frantz G., Akita R., Sun Y Hillan K., Crowley C., Brush J., Godowski P.J.; Meuregulin-3 (NRG3): a novel neural tissue-enriched protein the binds and activates ErbB4.";
                                                                                                                                                                                                                    16-OCT-2001 (Rel. 40, Last sequence update)
05-JUL-2004 (Rel. 44, Last annotation update)
Pro-neuregulin-3 precursor (Pro-NRG3) [Contains: Neuregulin-3 (NRG-
                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                             DISULFID
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                                                                                                                                                               Eukaryota; Metazoa;
Mammalia; Eutheria;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CHAIN
                                                                                                                   TISSUE=Fetal brain;
                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                 NCBI_TaxID=9606;
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                                                  Proc.
                                                                                                                                                                                   Homo sapiens
                                                                                                                                                                                                 Name=NRG3;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GO:0005515; F:protein binding; IPI
GO:0007243; P:protein kinase cascad
               C. Natl. Acad. Sci. U.S.Á. 94:9562-9567(1997).

FUNCTION: Direct ligand for the ERBB4 tyrosine kinase receptor. Binding results in ligand-stimulated tyrosine phosphorylation a activation of the receptor. Does not bind to the EGF receptor,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MGI:1097165;
                                                                                                                                                                                                                                                                                                                                      288
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; PS00022; EGF 1; 1.
; PS01186; EGF 2; 1.
; PS50026; EGF 3; 1.
e domain; Growth fact
                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                     HFKPCRDKDLAYCLNDGBCFVIETLTGSHKHCRCKEGYQGVRCDQFL
                                                                                                                                                                                                                                                                                                                                      HFKPCRDKDLAYCLNDGECFVIETLTGSHKHCRCKEGYQGVRCDQFL
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IPR006209; EGF_like.
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77369 MW;
                                                                                                                                                                                                                                                       40,
                                                                                                                                                              Chordata;
Primates;
                                                                                                                                                                                                                                                                                                                                                                                             100.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               factor; Multigene family; Transmembrane.
Pro-neurequlin-3, membrane-bound form.
                                                                                                                                                                                                                                                                                                                                                                                 0;
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Poly-Ser.
Poly-Thr.
By similar
By similar
By similar
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Poly-Thr.
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EGF-like.
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Neuregulin-3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Extracellular (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Poly-Ala.
                                                                                                                                                                                                                                                                                                                                                                                             Score 277; DB 1;
Pred. No. 8.6e-26;
                                                                                                                                                               Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                            By similarity.
By similarity.
By similarity.
By similarity.
By F7D1D5E7FC8DCF0 C
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t removed.
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(See http://www.isb-sib.ch/announce/
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RESULT 3

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ID NRG1_XENLA S

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DISULFID
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EGF-like
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DOMAIN
DOMAIN
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Pfam; PF02158; Neuregulin; 1.
SMART; SM00181; EGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Genew;
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InterPro; IPR006209; EGF like.
InterPro; IPR006210; IEGF like.
InterPro; IPR002154; Neuregulin.
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                                                                                                                                                                    SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GO:0005576; C:extracellular; NAS.
GO:0005887; C:integral to plasma membrane; NAS.
GO:0008083; F:growth factor activity; NAS.
GO:0030297; F:transmembrane receptor protein tyrosine kin.
GO:0001558; P:regulation of cell growth; NAS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SUBCELLULAR LOCATION: Exists as an type I membrane protein and a proteolytically released soluble growth factor form. The membrane-bound form does not seem to be active (By similarity). TISSUB SPECIFICITY: Highly expressed in most regions of the bra with the exception of corpus callosum. Expressed at lower level testis. Not detected in heart, placenta, lung, liver, skeletal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ERBB2 or ERBB3 receptors SUBCELLULAR LOCATION: Ex:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GO:0007170; P:transmembrane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SIMILARITY: Belongs to SIMILARITY: Contains 1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     proteolytic processing involves initial dimerization (By similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   intestine, colon and peripheral blood leukocytes.

DOMAIN: The cytoplasmic domain may be involved in the regulation of trafficking and proteolytic processing. Regulation of the proteolytic processing involves initial intracellular domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PTM: Extensive glycosylation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DOMAIN: ERBB receptor binding is elicited entirely by the EGF-like
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                domain (By similarity)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             form (By similarity)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            60553
                                                                         286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HGNC:7999;
                                                                                                                                                                                                                                                                                                                                                                        ; PS00022; EGF_1; 1.
; PS01186; EGF_2; 1.
; PS50026; EGF_3; 1.
e domain; Growth fact
                                                                                                                                 Similarity
                                                                                               HFKPCRDKDLAYCLNDGECFVIETLTGSHKHCRCKEGYQGVRCDQFL
                                                                         HFKPCRDKDLAYCLNDGECFVIETLTGSHKHCRCKEGYQGVRCDQFL 332
                                                                                                                                                                    720 AA;
                                                                                                                                                                                                                                                                                                   361
382
105
                                                                                                                       Conservative
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77900
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21
234
260
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317
                                                                                                                                 100.0%;
                                                                                                                                                                                                                                                                                                                                                                          factor; Multigene family;
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                                                                                                                                                                                                                 Poly-Ala.
Poly-Thr.
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Ser/Thr-rich.
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사용
                                                                                                                                                                                                                                                                                                                           Extracellular (Potential)
Internal signal sequence
                                                                                                                                                                                                                                                                                          EGF-like.
                                                                                                                                                                                                                                                                                                                                                    Neuregulin-3.
                                                                                                                                                                                                                                                                                                                                                               Pro-neuregulin-3,
                                                                                                                       Score 277; DB 1;
Pred. No. 8.7e-26;
; Mismatches 0;
                                                                                                                                                                                y similarity.
y similarity.
y similarity.
                                                                                                                                                                      A4D6F10DDB95A693
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(Potential).
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                                                                                                                                                                        CRC64;
                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                                                                                Transmembrane.
~hrane-bound form.
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STANDARD;

PRT;

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MEDLINE=9316087; PubMed=10383827; DOI=10.1006/mcne.i999.0759;
Yang J.F., Zhou H., Choi R.C., Ip N.Y., Peng H.B., Tsim K.W.K.;
"A cysteine-rich form of Xenopus neuregulin induces the expression of acetylcholine receptors in cultured myotubes.";
Mol. Cell. Neurosci. 13:415-429 (1999).
-i- FUNCTION: Direct ligand for the ERBB tyrosine kinase receptors.
-i- FUNCTION: Exists as a type I membrane protein and as a proteolytically released soluble growth factor form. The membrane-proteolytically released soluble growth factor form. The membrane-plantwinter boxonid form does not seem to be active (By similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               16-OCT-2001
16-OCT-2001
05-JUL-2004
                                                                                                                                                                                                                                                                                   This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Cloning of cDNAs encoding xenopus neuregumuscle during embryo development.";
Brain Res. Mol. Brain Res. 58:59-73(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A. (ISOFORM ALPHA1), AND ALTERNATIVE SPLICING.
MEDLINE=98352126; PubMed=9685585; DOI=10.1016/S0169-328X(98)00085-0;
Yang J.F., Zhou H., Pun S., Ip N.Y., Peng H.B., Tsim K.W.K.;
"Cloning of cDNAs encoding xenopus neuregulin: expression in myotoma"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Amphibia; Batrachia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pro-neuregulin-1
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                                                                                                                                                                                                                                   send
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      similarity).
SIMILARITY: C
                                                                                                                                                                                                                                                                                                                                                                                                                                                     SIMILARITY: Belongs to the neuregulin family.
SIMILARITY: Contains 1 EGF-like domain.
SIMILARITY: Contains 1 immunoglobulin-like C2-type domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DEVELOPMENTAL STAGE: Strong expression in developing brain and spinal cord of the embryo. Also expressed in the myotomal muscle. DOMAIN: The cytoplasmic domain may be involved in the regulation of trafficking and proteolytic processing. Regulation of the proteolytic processing involves initial intracellular domain dimerization (By similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IsoId-093383-1; Sequence=Displayed;
Name=CRD; Symonyms=CRD-NRG1, Cysteine-rich domain;
IsoId-093383-2; Sequence=VSP_00349, VSP_003450;
TISSUE SPECIFICITY: Isoform alphal is expressed in brain ar muscle. Isoform CRD is expressed in brain and spinal cord, very low level in muscle.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PTM: Proteolytic cleavage close to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       external
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Event=Alternative splicing; Named isoforms=2; Comment=Additional isoforms seem to exist.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ALTERNATIVE PRODUCTS:
                                                                                                                AF076618;
AF142632;
Q12780; 1H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          or beta-type EGF-like
                                                                                                                                                                                                                                   s requires a license agreement (S an email to license@isb-sib.ch).
                             IPR000742;
IPR006209;
IPR007110;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Extensive glycosylation precedes the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Metazoa; Chordata; Cranīata; Vertebrata; E
Batrachia; Anura; Mesobatrachia; Pipoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (Rel.
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(Rel.
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                                                                                                                                             AAC26804.1; -.
AAD33893.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      receptor binding is elicited
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 leads to the release
; EGF_2.
; EGF_like.
; Ig-like.
; Neuregulin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Last
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(Pro-NRG1) [Contains: Neuregulin-1].
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            sequence update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                domains,
                                                                                                                                                                                                                                                        moved. Usage by and fo
(See http://www.isb-sib.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    the plasma membrane of the soluble growt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          exist. Isoforms
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      the EGF-like
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Best Local S
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O6TGK9;

O5-JUL-2004 (TrEMBLrel. 2

O5-JUL-2004 (TrEMBLrel. 2

O5-JUL-2004 (TrEMBLrel. 2
                                            GO; GO:0005102; GO; GO:0009790; I
                                                                                                                                                                 DOMAIN
CARBOHYD
CARBOHYD
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DISULFID
DISULFID
DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TRANSMEM
DOMAIN
DOMAIN
                                                                                            Hendrickx J.;
Submitted (SEP-2003)
                                                                                                                 SEQUENCE
                                                                                                                                            Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                       SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                    VARSPLIC
                                                                                                                                                                Oryctolagus cuniculus (Rabbit)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRINTS; PRO1089; NEUREGULIN.

PROSITE; PS00022; EGF 1; 1.

PROSITE; PS01186; EGF 2; 1.

PROSITE; PS50026; EGF 3; 1.

PROSITE; PS50835; IG LIKE; 1.

PROSITE; PS50835; IG LIKE; 1.
                  InterPro;
                          InterPro;
                                    InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Immunoglobulin
CHAIN 1
        [nterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pfam;
                                                                                                                                                                                                                                            4
                                                                                                                                                                                                                                                                           188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PF00047; ig; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PF02158; Neuregulin;
                                                                                                                                                                                                                                                                                             ب
                                                                                                                                                                                                                                                                                                                20;
                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                          HLIKCSDKEKTYCVNGGECYVLNGITSSNQFMCKCKPGFTGARCTE
                                                                                                                                                                                                                                                                                           HFKPCRDKDLAYCLNDGECFVIETLTGSHKH-CRCKEGYQGVRCDQ
                         09790; P:embryonic development;
IPRO00742; EGF 2.
IPRO06209; EGF like.
IPRO06210; IEGF.
         IPR003599;
IPR007110;
                                                                                                                                                                                                                                                                                                                                                       677
                                                                                                                                                                                                                                                                                                                                                                                    223
                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1
261
281
37
188
57
192
200
222
                                                                                                                                                                                                                          PRELIMINARY;
                                                                                                                N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            domain; Transmembrane
1 259 Neuregu
1 677 Pro-neu
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280
677
132
232
116
206
220
231
124
136
                                                                                                                                                                                                                                                                                                                                                                                    252
                                                                                                                                            Chordata; Craniata; Vertebrata; Euteleostomi; Lagomorpha; Leporidae; Oryctolagus.
                                                                                                                                                                                                                                                                                                                      45.7%;
43.5%;
                                                                                                                                                                                                                                                                                                                                                       75794
       Ig.
Ig-like.
                                                                                             to the EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                       MW.
                                                                                                                                                                                                                                                                                                                                                                                                                      N-linked (GlcNAc. ..) (Potential).

N-linked (GlcNAc. ..) (Potential).

N-linked (GlcNAc. ..) (Potential).

MAEKKEVKEGKGEKGKKOKURGKKARGSGDGAAASPKLKE
IKTQSVQEGKKLVLKCQAVSEQPSLKFRWFKGEKEIGAKNK
PDSKPEHIKLEGKKKSSELQISKASSADNGEYKCMVSNQLG
NDTVTVNVTIVPK -> MSEDTAEGLQNQCSEQSSDPSAG
LQNESSNPETQDEEETHGITGLAITCCVCLEADRLRICLN
SEKICIIPILACLISLCLCIAGLKWVFVDKIFEYDSFTHLD
                                                                                                                                                                       (Fragment).
                                                                                                                                                                                                                                                                                                                10;
                                                                                                                                                                                  Last annotation
                                                                                                                                                                                             Last
                                                                                                                                                                                                                                                                                                              Score 126.5; DB 1
Pred. No. 3.8e-07;
0; Mismatches 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              By similarity.
By similarity.
By similarity.
By similarity.
By similarity.
                                                                                                                                                                                                                                                                                                                                                                RCQNYVMASFYK (in isoform CRD).
/FTId=VSP_003450.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Internal signal sequenc Cytoplasmic (Potential)

19-like C2-type.
                                                                                                                                                                                                                                                                                                                                                                                  /FTId=VSP_003449.
KPGFTGARCTETDPLRVVRSEKHLGIEFME
                                                                                                                                                                                                                                                                                                                                                                                                      FKFGTSLLPTE (in isoform CRD).
                                                                                                                                                                                                                                                                                                                                                                                                               PGHRGQDLILYTDTAPSTLVPSSVRTLPVIIPTTDSKAAVT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Lys-rich.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Extracellular (Potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pro-neuregulin-1,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Neuregulin-1 (By
                                                                                                                                                                                                                                                                                                                                                       49279E8F5BAE396F CRC64;
                                                                                                                                                                                           sequence
                                                                  IEA.
                                                                                     domain
                                                                                                                                                                                                                          394
                                                         ΙEΑ
                                                                                                                                                                                                                          8
                                                                                                                                                                                   update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sequence
                                                                                                                                                                                                                                                                                                                                  1.
                                                                                              databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         similarity)
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                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                  Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (Potential)
                                                                                                                                                                                                                                                                                             45
                                                                                                                                                                                                                                                                                                                                    677;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               form
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                                                                                                                                                                                                                                                                                                                Gaps
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۳,

Pfam; PF00047;

InterPro;

IPR002154; Neuregulin.

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178 HLVKCAEKEKTFCVNGGECFMVKDLSNPSRYLCKCQPGFTGARCTE

223

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Best Local S
Matches 16
                                   Query Match
Best Local Similarity
Matches 16; Conserv
                                                                                                                                                                                                                       GO; GO:0005102; F:receptor binding; IEA.
GO; GO:0009790; P:embryonic development; II
InterPro; IPR000742; EGF 2:
InterPro; IPR006209; EGF like.
InterPro; IPR006210; IEGF.
InterPro; IPR006210; IEGF.
InterPro; IPR003598; Ig -2:
InterPro; IPR003598; Ig -2:
InterPro; IPR00214; Neuregulin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PFAM; PF02158; Neuregulin; 1.
PRINTS; PR01089; NEUREGULIN.
SMART; SM00181; EGF; 1.
SMART; SM00409; IG; 1.
SMART; SM00409; IG; 1.
PROSITE; PS00022; EGF 1; 1.
PROSITE; PS01186; EGF 2; 1.
PROSITE; PS01186; EGF 3; 1.
PROSITE; PS05026; EGF 3; 1.
PROSITE; PS05035; IG_LIKE; 1.
EGF-like domain.
                                                                                                   PRINTS; PRO1089; NEUREGULÍN.
SMART; SM00181; EGF; 1.
SMART; SM00408; IGC2; 1.
PROSITE; PS00022; EGF_1; 1.
PROSITE; PS01186; EGF_2; 1.
PROSITE; PS50026; EGF_3; 1.
PROSITE; PS50035; IG_LIKE; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     O35947;
O35947;
O1-JAN-1998
O1-JAN-1998
O1-MAR-2004
                                                                                 PROSITE;
EGF-like
SEQUENCE
                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
Velasco J.A., Feijoo E.,
Submitted (APR-1997) to t
Submitted (APR-1997) to t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NON_TER
                                                                                                                                                                                                                                                                                                                      EMBL; U96612; AAB71812.1; HSSP; Q12780; 1HRE.
                                                                                                                                                                                                                                                                                                                                                                                                                           Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mesocricetus auratus (Golden hamster).
                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=10036;
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Neuregulin.
                                                                                                                                                                                        Pfam; PF02158; Neuregulin; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | HFKPCRDKDLAYCLNDGECFVIETLTGSHKH-CRCKEGYQGVRCDQ 45
                                                                                              domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3 (TrEMBLrel. 05,
3 (TrEMBLrel. 05,
4 (TrEMBLrel. 26,
                                                                                  461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         394 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRELIMINARY;
                                                                                 ΑA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          42980 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                       Chordata; Craniata; Vertebrata; Euteleostomi; Rodentia; Sciurognathi; Muridae; Cricetinae;
                                                                                  50890 MW;
                                   41.0%; Score 113.5; DB 2; 34.8%; Pred. No. 1.1e-05; tive 14; Mismatches 15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            41.0%; Score 113.5; DB 2
34.8%; Pred. No. 9.1e-06;
tive 14; Mismatches 15
                                                                                                                                                                                                                                                                                                                                                     E., Avila M.A., Notario V.; to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                            EGF-like
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C183EE80927443F9 CRC64;
                                                                                 935C9560F7148336 CRC64;
                                                                                                                                                                                                                                                                                                                                             domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       461
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                                                                                                                                                                                                                                                                                                 IEA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            15;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                          Length 461;
                                    Indels
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                                    1;
                                    Gaps
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Best Local S
Matches 16
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Pfam; PF000047; ig; 1.
Pfam; PF002158; Neuregulin; 1.
PRNYTS; PR01089; NEUREGULIN.
PROSITE; PS00022; EGF 1; 1.
PROSITE; PS01186; EGF 2; 1.
PROSITE; PS50026; EGF 3; 1.
PROSITE; PS50026; EGF 3; 1.
PROSITE; PS50835; IG LIKE; 1.
SEQUENCE 462 AA; 50848 MW;
                                                                        NRG1 HUMAN STANDARD; PRT; 639 AA.

(022397; 014667; P98202; (022398; Q02239; Q07111; Q12777;

(022397; 012781; Q12782; Q12783; Q12784; Q9UPE3;

16-0CT-2001 (Rel. 40, Created)

16-0CT-2001 (Rel. 40, Last sequence update)

25-0CT-2004 (Rel. 45, Last annotation update)

Pro-neuregulin-1 precursor (Pro-NRG1) [Contains: Neuregulin-1 differentiation factor) (Heregulin) (HRG) (Breast cancer cell differentiation factor p45) (Acetylcholine receptor inducing (ARIA) (Sensory and motor neuron-derived factor) (Glial growt)
                                                                                                                                                                                                                                                                                                                                                       HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL/GenBank/DDBJ third party annotation EMBL; BK000383; DAA00045.1; -. HSSP; Q12780; 1HRE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Stefansson H., Sigurdsson E., Steinthorsdottir V., Bjorns Sigmundsson T., Ghosh S., Brynjolfsson J., Gunmarsdottir Ivarsson O., Chou T.T., Hjaltason O., Brigisdottir B., JG Gudmadottir V.G., Gudmundsdottir E., Bjornsson A., Ingvar Ingason A., Sigfusson S., Hardardottir H., Harvey R.P., E Ingason A., Sigfusson S., Lenke G., Sainz J., Johannesson G., Mutel V., Gonzalo A., Lenke G., Sainz J., Johannesson G., Martin V., Gonzalo A., Lenke G., Sainz J., Johannesson G., Martin V., Gonzalo A., Lenke G., Sainz J., Johannesson G., Martin V., Gonzalo A., Lenke G., Sainz J., Johannesson G., Martin V., Gonzalo A., Lenke G., Sainz J., Johannesson G., Martin V., Gonzalo A., Lenke G., Sainz J., Johannesson G., Martin V., Gonzalo A., Lenke G., Sainz J., Johannesson G., Martin V., Gonzalo A., Lenke G., Sainz J., Johannesson G., Martin V., Gonzalo A., Lenke G., Sainz J., Johannesson G., Martin V., Gonzalo A., Lenke G., Sainz J., Johannesson G., Martin V., Gonzalo A., Lenke G., Sainz J., Johannesson G., Martin V., Gonzalo A., Lenke G., Sainz J., Johannesson G., Martin V., Gonzalo A., Lenke G., Sainz J., Johannesson G., Martin V., Gonzalo A., Lenke G., Sainz J., Johannesson G., Martin V., Gonzalo A., Lenke G., Sainz J., Johannesson G., Martin V., Gonzalo A., Lenke G., Sainz J., Johannesson G., Martin V., Gonzalo A., Lenke G., Sainz J., Johannesson G., Martin V., Gonzalo A., Lenke G., Sainz J., Johannesson G., Martin V., Gonzalo A., Lenke G., Sainz J., Johannesson G., Martin V., Gonzalo A., Lenke G., Sainz J., Johannesson G., Martin V., Gonzalo A., Lenke G., Sainz J., Johannesson G., Martin V., Gonzalo A., Lenke G., Sainz J., Johannesson G., Martin V., Gonzalo A., Lenke G., Sainz J., Johannesson G., Martin V., Gonzalo A., Lenke G., Sainz J., Johannesson G., Martin V., Gonzalo A., Lenke G., Martin V., Gonzalo A., Lenke G., Lenk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-MAR-2004 (TrEMBLrel.
01-MAR-2004 (TrEMBLrel.
01-MAR-2004 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q7RTW1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q7RTW1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GO; GO:0005102; F:receptor binding; IEA.
GO; GO:0009790; P:embryonic development; IEA.
InterPro; IPR0007742; EGF 2.
InterPro; IPR006209; EGF 1like.
InterPro; IPR007110; Ig-Tike.
InterPro; IPR002154; Neuregulin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mutel V., Gonzalo A., Lemke G., Sainz J., Johannesson G., Andresson T., Gudbjartsson D., Manolescu A., Frigge M.L., Gurney M.E., Rong A., Gulcher J.R., Petursson H., Stefansson K.; "Neuregulin 1 and Susceptibility to Schizophrenia.", "Neuregulin 1 and Susceptibility to Schizophrenia.", Am. J. Hum. Genet. 71:0-0 (2002).

-I- MISCELLANEOUS: The sequence shown here is derived from an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens (Human).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Neuregulin 1 isoform ndf43.
Name=NRG1; Synonyms=GGF, Homo sapiens (Human).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PubMed=12145742
                                                     Eactor)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HLVKCAEKEKTFCVNGGECFMVKDLSNPSRYLCKCQPGFTGARCTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HEKPCRDKDLAYCLNDGECFVIETLTGSHKH-CRCKEGYQGVRCDQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            41.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            14;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 113.5; DB 2
Pred. No. 1.1e-05;
4; Mismatches 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                           HRGA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8CAADBB30056A80D CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       sequence update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (TPA) entry
                                                                                                                                                                                                                                                                                                  Q07111; Q12779;
                                                                                   (Glial growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length
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Brunner D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    223
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                                                                                                            activity)
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MEDLINE=99455251; PubMed=10523851; DOI=10.1038/sj.onc.1202950; Wang X.-Z., Jolicoeur E.M., Conte N., Chaffanet M., Zhang Y., Mozziconacci M.-J., Feiner H., Birnbaum D., Pebusque M.-J., Ror "Gamma-heregulin is the product of a chromosomal translocation the DOC4 and HGL/NRG1 genes in the MDA-MB-175 breast cancer cel
                                                                                                                                                                                                                                                                                                       MEDLINE=93366731; PubMed=7689552;
Culouscou J.-M., Plowman G.D., Carlton G.W., Green J.M., S
"Characterization of a breast cancer cell differentiation
specifically activates the HER4/pl80erbB4 receptor.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Schaefer G., Fitzpatrick V.D., Sliwkowski M.X.; "Gamma-heregulin: a novel heregulin isoform that is an autocrine growth factor for the human breast cancer cell line, MDA-MB-175.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Marchionni M.A., Goodearl A.D.J., Chen M.S., Bermingham-McDonogh Kirk C., Hendricks M., Danehy F., Misumi D., Sudhalter J., Kobayashi K., Wroblewski D., Lynnch C., Baldasarre M., Hiles I., Davis J.B., Hsuan J.J., Totty N.F., Otsu M., McBurney R.N., Waterfield M.D., Stroobant P., Gwynne D.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE :... MEDLINE=92208945;
Bacus S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A. (ISOFORMS 2; 3; 4; TISSUE=Kidney adenocarcinoma, and PitMEDLINE=94158863; PubMed=7509448;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eppenberger
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TISSUE=Breast cancer;
MEDLINE=97472144; PubMed=9333014; DOI=10.1038/sj.onc.1201317;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Glial growth factors are diction";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Wen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Holmes W.E., Sliwkowski M.X., Akita R.W., Henzel W.J., Lee J., Park J.W., Yansura D., Abadi N., Raab H., Lewis G.D., Shepard H.M. Kuang W.-J., Wood W.I., Goeddel D.V., Vandlen R.L.; "Identification of heregulin, a specific activator of p185erb82.";
                                               Oncogene 18:5718-5721(1999).
                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE OF 19-27.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A. OF GAMMA-HEREGULIN FUSION PROTEIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=93205115; PubMed=8096067; DOI=10.1038/362312a0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TISSUE=Brain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Levy R.B., Yarden Y.; "Isolation of the neu/HER-2 stimulatory ligand: a 44 kd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  differentiation factors.",
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Meng S.-Y
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Janssen A.M.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                  CHROMOSOMAL TRANSLOCATION
                                                                                                                                                                                                                                                                                  Biol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  D., Suggs S.V., Karunagan
ssen A.M., Ben-Baruch N.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  induces differentiation 69:205-216(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       362:312-318(1993).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               15:1385-1394(1997).
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                                                                                                                                                                                                                                                                                  Chem. 268:18407-18410(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (SEP-1997)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             □ .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1-210 FROM N.A.
F., Herzer S.,
TRANSLOCATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          and functional aspects of the multiplicity of Neu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Lu H.S., F. Yarden Y.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    factors are alternatively spliced erbB2 ligands
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            14:1909-1919(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            . (ISOFORM 1).
PubMed=1348215; DOI=10.1016/0092-8674(92)90131-U;
S.. Koski R.A., Lu H.S., Wen D., Ogden S.G.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         . (ISOFORMS 1; 6
PubMed=1350381;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL/GenBank/DDBJ
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Trollinger D.B.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 6; 7 AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          mammary tumor cells.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pituitary;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Kueng W.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            H., Lewis G.D., Shepard H.M., Vandlen R.L.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Yang W., Yanigahara
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AND
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Jacobsen V.L.,
                                                                                                  breast cancer cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  databases
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MDA-MB-175.";
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                                                                                                                                                                                                                                                                                                                                                             Shoyab M.;
                                                                                                                                                                                                                                                                                                                                     factor that
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                                                                                                                                                  Ron D.;
                                                                                                                             fusing
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IsoId=Q15491-1; Sequence=External;

-!- TISSUE SPECIFICITY: Type I isoforms are the predominant forms expressed in the endocardium. Isoform alpha is expressed in breast, ovary, testis, prostate, heart, skeletal muscle, lung, placenta liver, kidney, salivary gland, small intestine and brain, but not in uterus, stomach, pancreas, and spleen. Isoform 3 is the predominant form in mesenchymal cells and in nonneuronal organs, whereas isoform 5 is the major neuronal form. Isoform 8 is expressed in spinal cord and brain. Isoform 9 is the major form in skeletal muscle cells; in the nervous system it is expressed in spinal cord and brain. Also detected in adult heart, placenta, lung, liver, kidney, and pancreas.
-!- DEWLOPMENTAL STAGE: Detectable at early embryonic ages.
-!- DOMAIN: The cytoplasmic domain may be involved in the care.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=20065180; PubMed=10597312; DOI=10.1038/sj.onc.1203136; Liu X., Baker E., Eyre H.J., Sutherland G.R., Zhou M.; "Gamma-heregulin: a fusion gene of DOC-4 and neuregulin-1 derived from a chromosome translocation."; oncogene 18:7110-7114(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRUCTURE BY NMR OF 175-241 (ISOFORM MEDLINE=94341264; PubMed=8062828;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Solution structure of the epidermal growth heregulin-alpha, a ligand for pl80erbB-4."; EMBO J. 13:3517-3523(1994)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Nagata K., Kohda D., Hatanaka H.,
Yamamoto T., Suzuki A., Inagaki F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ALTERNATIVE PRODUCTS:

Event=Alternative splicing; Named isoforms=9;

Comment=Additional isoforms seem to exist. Isoforms

Comment=Additional isoforms is seem to exist.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SÜBUNIT: The cytoplasmic domain interacts with the LIM domain region of LIMKI (By similarity).

SUBCELLULAR LOCATION: Exists as an type I membrane protein and a proteolytically released soluble growth factor form. The membrane-bound form does not seem to be active. The secreted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FUNCTION: Direct ligand for ERBB3 and ERBB4 tyrosine kinase receptors. Concomitantly recruits ERBB1 and ERBB2 coreceptors, resulting in ligand-stimulated tyrosine phosphorylation and activation of the ERBB receptors. The multiple isoforms perform
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               lobuloalveolar budding and milk production in the mammary gland and inducing differentiation of mammary tumor cells; stimulating Schwann cell proliferation; implication in the development of the myocardium such as trabeculation of the developing heart. SUBUNIT: The cytoplasmic domain interacts with the LIM domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Name=8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Name=7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            III NRGs (isoforms with a Cys-rich domain, isoform 10). Al these isoforms perform distinct tissue-specific functions, Name=1; Synonyms=Alpha; IsoId=Q02297-1; Sequence=Displayed;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         diverse functions such as inducing growth and differentiation of epithelial, glial, neuronal, and skeletal muscle cells; inducing expression of acetylcholine receptor in synaptic vessicles during the formation of the neuromuscular junction; stimulating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         isoform
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       classified as type I NRGs (isoforms with an Ig domain and a glycosylation domain, isoforms 1-8), type II NRGs (isoforms with an Ig domain but no glycosylation domain, isoform with an Ig domain but no glycosylation domain, isoform 9) and type III NRGs (isoforms with a Cys-rich domain, isoform 10). All these isoforms perform distinct times.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ime=6; Synonyms=Beta1, Beta1A;
IsoId=Q02297-6; Sequence=VSP_003428;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IsoId=Q02297-4; Sequence=VSP_003432,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ime=3; Synonyms=Alpha2B;
IsoId=002297-3; Sequence=VSP_003434, VSP_003435;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ime=2; Synonyms=Alpha1A;
IsoId=Q02297-2; Sequence=VSP_003431;
                                                                                                                                                                                                                                                                                                                                                                IsoId=Q02297-9; Sequence=VSP_003425,
VSP_003430;
                                                                                                                                                                                                                                                                                                                                                                                                               IsoId=Q02297-8; Sequence=VSP_003429, VSP_003430;
ime=9; Synonyms=GGF2, GGFHPP2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          IsoId=Q02297-7; Sequence=VSP_003427;
ime=8; Synonyms=Beta3, GGFHFBI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Synonyms=Beta2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Synonyms=Alpha3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   has a signal peptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Inagaki F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ichikawa S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The isoform
                                                                                                                                                                                                                                                                                                                                                                                      VSP_003426,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VSP_003433;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                factor-like
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matsuda
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        s:
                                                                                                                                                                                                                                                                                                                                                                                         VSP_003429,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  of,
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(By similarity).

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Best Local S
Matches 16
           SEQUENCE FROM N.A.

PubMed=12145742;

Stefansson H., Sigurdsson E., Steinthorsdottir V., Bjornsdottir S., Stefansson T., Ghosh S., Brynjolfsson J., Gunnarsdottir S., Sigmundsson O., Chou T.T., Hjaltason O., Birgisdottir B., Jonsson H., Ivarsson O., Chou Gudnadottir V.G., Gudmundsdottir E., Bjornsson A., Ingvarsson B., Gudnadottir V.G., Gudmundsdottir H., Harvey R.P., Brunner D., Ingason A., Sigfusson S., Hardardottir H., Harvey R.P., Brunner D.
                                                                                                                                                                                                           Q7RTV8
Q7RTV8;
01-MAR-2004
01-MAR-2004
01-MAR-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the EM the European Bioinformatics Institute. There are no restruse by non-profit institutions as long as its content modified and this statement is not removed. Usage by and entities requires a license agreement (See http://www.isb-sor send an email to license@isb-sib.ch).
                                                                                                                                          Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                  Neuregulin 1
Name=NRG1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL;
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    Ingason A.,
Mutel V., G
                                                                                                                          NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL;
                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  isoform, called gamma-heregulin. Gamma-heregulin is a soluble activating ligand for the ERBB2-ERBB3 receptor complex and acts as an autocrine growth factor in a specific breast cancer cell line (MDA-MB-175). Not detected in breast carcinoma samples, including ductal, lobular, medullary, and mucinous histological types, neither in other breast cancer cell lines.

SIMILARITY: Belongs to the neuregulin family.

SIMILARITY: Contains 1 EGF-like domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        similarity)
DISEASE: In
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          dimerization
DOMAIN: ERBB
domain.
PTM: Proteoly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                external form.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                fuses the 5'end of ODZ4 to NRG1 (isoform 8). The product of the translocation was first thought to be an alternatively spliced isoform, called gamma-heregulin. Gamma-heregulin is a soluble
                                                                                                                                                                                                                                                                                                                                                                                                                                              M94166;
M94167;
M94168;
U02325;
U02327;
U02327;
U02328;
U023309;
U122260;
L12260;
                                                                                                                                                                                                                                                                                                                                       177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   M94165;
                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Extensive glycosylation precedes the proteolytic cleavage
                                                                                                                                                                                                                                                                                                                                      HLVKCAEKEKTFCVNGGECFMVKDLSNPSRYLCKCQPGFTGARCTE
                                                                                                                                                                                                                                                                                                                                                    HFKPCRDKDLAYCLNDGECFVIETLTGSHKH-CRCKEGYQGVRCDQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Proteolytic
                                                                                                                                                                                                           (TrEMBLrel. 26, Created)
(TrEMBLrel. 26, Last sequence update)
(TrEMBLrel. 26, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                              AAA58638.1;
AAA58639.1;
AAA58640.1;
AAA58641.1;
AAA19950.1;
AAA19951.1;
AAA19952.1;
AAA19953.1;
                                                                                                                                                                                                                                                                    PRELIMINARY;
                                                                                                                                                                     (Human)
                                                                                                                                                                                                 isoform
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Involved
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               tace
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     receptor binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               leads
                                                                                                                                         Chordata;
Primates;
                                                                                                                                                                                                                                                                                                                                                                                                      41.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cleavage close to the plasma
ads to the release of the sol
                                                                                                                                                                                               HRG-alpha.
    Lemke
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           rare t(8;11) chromosomal translocation
                                                                                                                                                                                                                                                                                                                                                                                           Score 113.5; DB 1
Pred. No. 1.5e-05;
4; Mismatches 15
                                                                                                                                          Craniata; Vo
Catarrhini;
                                                                                                                                                                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    is elicited entirely by the EGF-like
                                                                                                                                                                                                                                                                    640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (See http://www.isb-sib.ch/announce/
                                                                                                                                                      Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                    B
                                                                                                                                            Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                            15;
                                                                                                                                                                                                                                                                                                                                                                                                                   1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               soluble
                                                                                                                                                                                                                                                                                                                                                                                                                   Length 639;
                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                restrictions on
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             growth
                                                                                                                                                                                                                                                                                                                                       222
                                                                                                                                                                                                                                                                                                                                                               45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           collaboration
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Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; BK000383; DAA00048.1;
HSSP; Q12780; IHRE
GO; GO:0005102; F: receptor binding; II
GO; GO:0009790; P:embryonic developme:
InterPro; IPR000742; EGF 2.
InterPro; IPR0007101; IGF-like.
InterPro; IPR007110; IGF-like.
InterPro; IPR002154; Neuregulin.
                                                                                                                                                                                                                                                                                                                                                                      Q9ESA9;
Q9ESA9;
01-MAR-2001;
01-MAR-2001;
NON TER
NON TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pfam; PFO
PRINTS; P:
PROSITE;
PROSITE;
PROSITE;
PROSITE;
                                PROSITE;
PROSITE;
PROSITE;
PROSITE;
EGF-like
                                                                                                                                                                                                        Carroll S.L., Anderson K.D., Submitched (OCT-1999) to the -i- SIMILARITY: Contains 1 EMBL; AF194440; AAG28429-1; HSSP; Q12780; 1HRE.
                                                                                                                                                                                                                                                                                                                                                 SMDF neuregulin alpha 2b
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pfam; PF00047; ig; 1.
Pfam; PF02158; Neuregulin; 1
PRINTS; PR01089; NEUREGULIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Kong A., Gulcher J.R., Petursson H., Steransson K.; "Neuregulin 1 and Susceptibility to Schizophrenia."; Am. J. Hum. Genet. 71:0-0(2002).

-!- MISCELLANEOUS: The sequence shown here is derive
                                                                                     PRINTS; PR01089; NEUREGULIN. SMART; SM00181; EGF; 1.
                                                                                                           Pfam; PF00008; EGF; 1.
Pfam; PF02158; Neuregulin;
                                                                                                                              GO; GO:0005102; F:receptor binding; IEA.
GO; GO:0009790; P:embryonic development;
InterPro; IPR000742; EGF 2.
InterPro; IPR006209; EGF-like.
InterPro; IPR002114; HPr SerP S.
InterPro; IPR002154; Neuregulin.
InterPro; IPR002154; Neuregulin.
                                                                                                                                                                                                                                                              STRAIN=BD
                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Mammalia; Butheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                             01-MAR-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pfam; PF00008; EGF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Andresson T.,
                                                                                                                                                                                                                                                                         SEQUENCE
                                                                                                                                                                                                                                                                                           NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                             Rattus norvegicus (Rat).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL/GenBank/DDBJ third party L; BK000383; DAA00048.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                           178
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   l Similarity
16; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PS00022;
PS01186;
PS50026;
                                                                PS00022;
PS01186;
                                                                                                                                                                                                                                                                         FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                           HLVKCAEKEKTFCVNGGECFMVKDLSNPSRYLCKCQPGFTGARCTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HEKPCRDKDLAYCLNDGECFVIETLTGSHKH-CRCKEGYQGVRCDQ 45
                                 domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PS50835;
                                           PS00589;
                                                      PS50026;
                                                                                                                                                                                                                                                                                                                                                            (TrEMBLrel. (TrEMBLrel. (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                640 AA;
 298
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            298
                                                                                                                                                                                                                                                                                                                                                                                                     PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gudbjartsson D., Manolescu A.,
 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; EGF 1; 1.
; EGF 2; 1.
; EGF 3; 1.
; IG LIKE; 1.
A; 70361 MW;
                                        EGF 1; 1.
EGF 2; 1.
EGF 3; 1.
PTS HPR SER; UNKNOWN 1.
            298
 32851
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              41.0%;
                                                                                                                                                                                                                                                   K.D.,
                                                                                                                                                                                                                                                                                                                                                             16,
26,
                                                                                                                                                                                                                               the EMBL/Ger
                                                                                                                                                                                                                                                                                                                                                (Fragment)
 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; Pred. No. 1.5e
                                                                                                                                                                                                                                                                                                                                                            Last sequence update)
Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      binding; IEA.
development;
                                                                                                                                                                                                                                                                                                                                                                                  Created)
                                                                                                                                                                                                                               Frohnert P.W.;
EMBL/GenBank/DDBJ databases
GF-like domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 113.5;
                                                                                                                                                                                                                                                                                                        Craniata; Vertebrata;
Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                      PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               11AFC54B32527ACC CRC64;
 BD76F014C2B33026
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 annotation
                                                                                                                                                                                                                                                                                                                                                                                                       298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .5e-05;
les 15;
                                                                                                                                                                                     IEA.
                                                                                                                                                                                                                                                                                                                                                                                                       ΑA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               is derived fro
on (TPA) entry.
                                                                                                                                                                                                                                                                                                                                                             update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length
                                                                                                                                                                                                                                                                                                                  Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      M.L.,
                                                                                                                                                                                                                                                                                                          Murinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             from
                                                                                                                                                                                                                                                                                                                                                                                                                                                            223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         640;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gurney M.E.,
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OF SERVICE 
RESULT
NRG4 NR
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ID IN
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DT 16
DT 16
DT 055
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DT
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Best Local S
Matches 16
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GO; GO:0005102; F:receptor binding; IEA.

GO; GO:0009790; P:embryonic development; IE

InterPro; IPR000742; EGF 2.

InterPro; IPR006209; EGF 1ike.

InterPro; IPR006210; IEGF.

InterPro; IPR006210; IEGF.

InterPro; IPR006210; IEGF.

InterPro; IPR006210; IEGF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local S
Matches 16
                                                                                                                                                                                                                                                                                                                       NRG4 MOUSE
Q9WTX4;
16-OCT-2001
16-OCT-2001
                                                                                                                                                                                                                                                16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
05-JUL-2004 (Rel. 44, Last annotation update)
Pro-neuregulin-4, short isoform (Pro-NRG4) [C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EGF-like
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pfam; PF00008; EGF; 1.
Pfam; PF02158; Neuregulin; 1.
PRINTS; PR01089; NEUREGULIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q9ESBO;
                                                                   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                          Name=Nrg4;
Mus musculus (Mouse).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PROSITE; PS00022; EGF_1; 1.

PROSITE; PS01186; EGF_2; 1.

PROSITE; PS50026; EGF_3; 1.

PROSITE; PS00589; PTS_HPR_SER; UNKNOWN_1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Carroll S.L., Anderson K.D., Frohnert P.W.; Submitted (OCT-1999) to the EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -!- SIMILARITY: Contains 1 |
EMBL; AF194439; AAG28428.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SMDF neuregulin alpha 2a.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-MAR-2001
01-MAR-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRAIN-BDIX;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Name=Nrg1;
                                                                                                                                                                                                                      (NRG-4)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-MAR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ch 40.3%;
l Similarity 34.8%;
16; Conservative 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SM00181; EGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity 34.8
16; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HIKCAEKEKTFCVNGGECFTVKDLSNPSRYLCKCQPGFTGARCTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HFKPCRDKDLAYCLNDGECFVIETLTGSHKH-CRCKEGYQGVRCDQ 45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             domain
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HLIKCAEKEKTFCVNGGECFTVKDLSNPSRYLCKCQPGFTGARCTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               695 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (TrEMBLrel. 16, Created)
(TrEMBLrel. 16, Last sequence update)
(TrEMBLrel. 26, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                        STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               75646 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          40.3%; Score 111.5; DB 2
34.8%; Pred. No. 1.2e-05;
tive 13; Mismatches 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EGF-like domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 111.5;
Pred. No. 2.8e
13; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5277F2CBA2FB6878 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                        115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2.8e-05;
1es 16;
                                                                                                                                                                                                                                                                                                                                                                                                                                        B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IEA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DΒ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 2;
                                                                                                                                                                                                                                                       [Contains: Neuregulin-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          16;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 695;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                       Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  298;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
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A "Neuregulin-4: a ""

T "Receptor tyrosine kinase.";

RI Oncogene 18:2681-2689(1999).

CC -!-FUNCTION: Low affinity ligand for the ERBB4 tyrosine kinase.

CC receptor Concomitantly recruits ERBB1 and ERBB2 coreceptors,

CC resulting in ligand-stimulated tyrosine phosphorylation and

CC activation of the ERBB receptors. Does not bind to the ERBB1,

CC ERBB2 and ERBB3 receptors.

CC -!-SUBCELIULAR LOCATION: Exists as an type I membrane protein and as

a proteolytically released soluble growth factor form. The

a proteolytically released soluble growth factor form. The
 DOMAIN
DOMAIN
DISULFID
DISULFID
DISULFID
CARBOHYD
                                                                                                                   DOMAIN
TRANSMEM
                                                                                                                                                                                       PRINTS; PRO0009; EGFTGF.

SMART; SM00181; EGF; 1; 1.

PROSITE; PS00122; EGF 2; FALSE_NEG.

PROSITE; PS01186; EGF 2; FALSE_NEG.

PROSITE; PS50026; EGF 3; 1.

Alternative splicing; EGF-like domain;
                                                                                                                                                                                                                                                                              InterPro; IPR001336; EGF 1.
InterPro; IPR000742; EGF 2.
InterPro; IPR006209; EGF like.
InterPro; IPR006210; IEGF.
InterPro; IPR006210; IEGF.
Pfam; PF00008; EGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                               the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
STRAIN=C57BL/6J; TISSUE=Liver;
STRAIN=C57BL/6J; TISSUE=Liver;
MEDLINE=9276098; PubMed=10348342; DOI=10.1038/sj.onc.1202631;
Harari D., Tzahar B., Romano J., Shelly M., Pierce J.H., Andrews G.
Yarden Y.;
SEQUENCE
                                                                                                                                                  CHAIN
                                                                                                                                                                           Multigene
                                                                                                                                                                                                                                                                                                                                                      EMBL; AF083067; AAD2187
HSSP; Q12780; 1HRE.
MGD; MGI:1933833; Nrg4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ÷
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                external face leads form (By similarity) PTM: Extensive glyco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SIMILARITY: Belongs to SIMILARITY: Contains 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DOMAIN:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DOMAIN: The cytoplasmic domain may be involved in the regulation of trafficking and proteolytic processing. Regulation of the proteolytic processing involves initial intracellular domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ISOId=Q9WTX4-1; Se
TISSUE SPECIFICITY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ALTERNATIVE PRODUCTS:
Event=Alternative splicing; Named
Comment=At least 3 isoforms may
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PTM: Proteolytic cleavage close to external face leads to the release
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DOMAIN: ERBB receptor binding is elicited domain (By similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        proteolytic processing involves initial dimerization (By similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Name=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    in muscle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Extensive glycosylation precedes
                                                                                                                                                                           family;
60
115 AA;
                             63
84
9
17
17
36
                                                                                                                                                                                                                                                                                                                                                                                       AAD21874.1;
                                                                                                                                                                            Transmembrane
                             115
62
63
83
115
23
34
45
12743
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence=Displayed;
Y: Highly expressed in pancreas; weakly expressed
 MW.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      the neuregulin EGF-like domain
            By similarity.
By similarity.
By similarity.
By similarity.
N-linked (GlCNAc. . .) (Potential).
N-linked (GlCNAc. . .) (Potential).
                                                                                    Cytoplasmic EGF-like.
                                                                                                                                Neuregulin-4.
Extracellular (Potential)
                                                                                                                                                           Pro-neuregulin-4,
                                                                                                                  Internal signal
 989A1E376F857B49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            isoforms=1;
be produced;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             the plasma membrane of the soluble growt
                                                                                                                                                                                         Glycoprotein; Growth factor;
                                                                                                    ynal sequence
(Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  proteolytic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          entirely by
                                                                                                                                                               membrane-bound
 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             brane on growth f
                                                                                                                     (Potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cleavage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          the EGF-like
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (By
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RESULT
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RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
FRA Klausner R.D., Collins F.S., Wagner L., Shammen C.M., Schuler G.D.,
RA, Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA, Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA, Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA, Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA, Bias S., Loquellano N.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA Brownstein M.J., Ugdin T.B., Toshiyuki S., Carninci P., Frange C.,
RA Brownstein M.J., McKernan K.J., Malek J.A., Gunarathe P.H.,
RA Richards S., Morley K.C., Hale S., Garcia A.M., Gay L.J., Hullahy S.J.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hullyk S.W.,
Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.,
"Generation and initial analysis of more than 15,000 full-length human processing the collab sequences.";

Proc. Matl Acad Sci II S. a. 00.16809.16001/2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 L HUMAN
NRG4 HUMAN
O8WWG1;
                                                                                         This
                                                                      between
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pro-neuregulin-4,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       28-FEB-2003
05-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens (Human).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Name=NRG4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                28-FEB-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (NRG-4)
                                                                                                                             similarity).
- SIMILARITY: E
- SIMILARITY: (
                                                                                                                                                                                                                                                                                                                             FUNCTION: Low affinity ligand for the ERBB4 tyrosine kinase receptor. Concomitantly recruits ERBB1 and ERBB2 coreceptors, resulting in ligand-stimulated tyrosine phosphorylation and activation of the ERBB receptors. Does not bind to the ERBB1, ERBB2 and ERBB3 receptors (By similarity).

SUBCELLULAR LOCATION: Exists as an type I membrane protein and as a proteolytically released soluble growth factor form. The membrane-bound form does not seem to be active (By similarity).

DOMAIN: The cytoplasmic domain may be involved in the regulation of trafficking and proteolytic processing. Regulation of the proteolytic processing involves initial intracellular domain dimerization (By similarity).
                                                                                                                                                                                                              PTM: Proteolytic cleavage close to the external face leads to the release of t form (By similarity).
                                                                                                                                                                                                                                                                          DOMAIN: ERBB receptor binding is elicited entirely by the domain (By similarity).
                                                                                                                                                                                                                                                                                                                    dimerization (By similarity).
                       SWISS-PROT entry is copyright. It is produced through
een the Swiss Institute of Bioinformatics and the EN
European Bioinformatics Institute. There are no restr
by non-profit institutions as long as its content
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         19;
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                                                                                                                                                                                           Extensive glycosylation
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Acad. Sci. U.S.A. 99:16899-16903(2002).
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                                                                                                                             Belongs to
Contains 1
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44, Last annotation updat
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Primates;
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EGF-like domair
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                                                                    EMBL outstation
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RESULT 13
Q6PK61
ID Q6PK6
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                                 RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,

RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,

RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Heich F.,

RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Heich F.,

RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Heich F.,

RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Heich F.,

RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Heich F.,

RA Hopkins R.F., Jordan H., Toshiyuki S., Carninci P., Prange C.,

Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,

RA Richards S., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,

RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

RA Willalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

RA Willing M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,

Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,

Korse G. T. May A. M. Schmutz J., Myers R.M., Butterfield Y.S.,

Korse G. T. May A. M. Schmutz J., Myers R.M., Butterfield Y.S.,

Korse G. T. Max A. M. Schmutz J., Schmerch A., Schein J.E.,

Rodriguez A.C., Skalska U., Smailus D.E., Schmerch A., Schein J.E.,
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Best Local S
Matches 19
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CARBOHYD
SEQUENCE
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05-JUL-2004 (TrEMBLrel.
05-JUL-2004 (TrEMBLrel.
05-JUL-2004 (TrEMBLrel.
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DOMAIN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            entities requires a license agreement (S or send an email to license@isb-sib.ch).
          Jones S.J., Marra M.A.; "Generation and initial analysis
                                                                                                                                                                                                                                                                                                                                                 Eukaryota;
Mammalia; E
                                                                                                                                                                                                                                                                                                                                                                                             Name=NRG1;
                                                                                                                                                                                                                                                                                                                                                                                                      Neuregulin 1, isoform HRG-beta3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q6PK61
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PROSITE; PS001186; EGF_1; 1.
PROSITE; PS01186; EGF_2; FALSE_NEG
PROSITE; PS50026; EGF_3; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro; IPR001336; EGF_1.
InterPro; IPR000742; EGF_2.
InterPro; IPR006209; EGF_like.
Pfam; PF00008; EGF; 1.
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                                                                                                                                                                                                                                                                       TISSUE=Ovary;
MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
                                                                                                                                                                                                                                                                                                       SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens (Human)
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19; Conserv
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Last annotation update)
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N-linked (GlcNAc.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               sequence
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Best Local Similarity
Matches 15; Conserv
InterPro; IPR000742; EGF 2:
InterPro; IPR006209; EGF like.
InterPro; IPR007110; Ig-Tike.
Pfam; PF000008; EGF; 1.
Pfam; PF00047; ig; 1.
PROSITE; PS00022; EGF 1; UNKNOWN 1.
PROSITE; PS50026; EGF 3; 1.
PROSITE; PS50835; IG LIKE; 1.
SEQUENCE 241 AA; Z6142 MW; D2450D
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InterPro; IPR006209; EGF like.
InterPro; IPR006210; IEGF
InterPro; IPR003599; IG.
InterPro; IPR0031599; Ig-1ike.
InterPro; IPR0031599; Ig-c2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q7RTW0 PRELIMINAMA, (77RTW0; O7RTW0; O7RTW0; O7RTW0; O1-MAR-2004 (TrEMBLrel. 26, Created) O1-MAR-2004 (TrEMBLrel. 26, Last sequence update) O1-MAR-2004 (TrEMBLrel. 26, Last annotation update) O1-MAR-2004 (TrEMBLrel. 26, Last annotation update) O1-MAR-2004 (TrEMBLrel. 26, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Stefansson H., Sigurdsson E., Steinthorsdottir V., Bjornsdottir S., Sigmundsson T., Ghosh S., Brynjolfsson J., Gunnarsdottir S., Ivarsson O., Chou T.T., Hjaltason O., Birgisdottir B., Jonsson H., Gudnadottir V.G., Gudmundsdottir E., Bjornsson A., Ingvarsson B., Ingsason A., Sigfusson S., Hardardottir H., Harvey R.P., Brunner D., Mutel V., Gonzalo A., Lemke G., Sainz J., Johannesson G., Andresson T., Gudbjartsson D., Manolescu A., Frigge M.L., Gurney M.I., Kong A., Gulcher J.R., Petursson H., Stefansson K., "Neuregulin I and Susceptibility to Schizophrenia.", am. J. Hum. Genet. 71:0-0(2002).
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                                                                                                                                                                                                                                                                                                                                                       EMBL; BK000383; DAA00046.1; HSSP; Q12780; 1HRE.
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Mammalia; Eutheria; Primates;
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EGF-like
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SMART; SM00409; IG; 1.

SMART; SM004009; IGC2; 1.

PROSITE; PS00022; EGF 1; UNKNOWN 1.

PROSITE; PS50026; EGF 3; 1.

PROSITE; PS50835; IG_LIKE; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PubMed=12145742;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=9606;
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Pfam; PF00047; ig; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                               EMBL/GenBank/DDBJ third party annotation
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Pred. No. 7.2e-05;
L4; Mismatches 18;
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Best Local S
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Pfam; PF000047; ig; 1.

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PROSITE; PS00022; EGF 1; UNKNOWN 1.

PROSITE; PS01186; EGF 2; FALSE NEG.

PROSITE; PS50036; EGF 3; 1.

PROSITE; PS50835; IG_LIKE; 1.

EGF-like domain.
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TISSUB=Posterior pituitary;

MEDLINE=93205:115; PubMed=8096067; DOI=10.1038/362312a0;

MEDLINE=93205:115; PubMed=8096067; DOI=10.1038/362312a0;

MEDLINE=93205:115; PubMed=8096067; DOI=10.1038/362312a0;

MEDLINE=93205:115; PubMed=8096067; DOI=10.1038/362312a0;

MEDLINE=93205:115; Submid D., Sudhalter J.,

Kirk C., Hendricks M., Danehy F., Misumi D., Sudhalter J.,

Kobayashi K., Wroblewski D., Lynch C., Baldasarre M., Hiles I.,

Kobayashi K., Wroblewski D., Lynch C., Otsu M., McBurney R.N.,

Davis J.B., Hsuan J., Totty N.F., Otsu M., McBurney R.N.,

Davis J.B., Hsuan J., Totty N.F., Otsu M., McBurney R.N.,
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01-JAN-1998
01-MAR-2004
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PIR; S32359; S32359.
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Bovinae; Bos.
NCBI_TaxID=9913;
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Name=GGFBPP5; Synonyms=neuregulin;
Bos taurus (Bovine).
Bukaryota; Metazoa; Chordata; Cran
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Davis J.B., Hsuan J., Totty N.F., Otsu M., McBuz Waterfield M.D., Stroobant P., Gwynne D.; "Glial growth factors are alternatively spliced
                                                                                                                                                                                                                                                                                                                                                                                                                                 Nature 362:312-318(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                              expressed in the nervous system.";
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InterPro; IPR003598;
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8 (TrEMBLrel. 05,
4 (TrEMBLrel. 26,
                                                                                                                                                                241 AA; 25955 MW; BF571297E8DA9796 CRC64;
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ig_c2.
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Pred. No. 7.2e
14; Mismatches
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277
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2: pir2:*
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Query
Match
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Gapop 10.0 , Gapext 0.5
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GenCore version 5.1.6 (c) 1993 - 2005 Compugen Ltd
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#### ALIGNMENTS

Qy 1 HFKPCRDKDLAYCLNDGECFVIETLTGSHKH-CRCKEGYQGVRCDQ 45	Query Match 41.0%; Score 113.5; DB 2; Length 125; Best Local Similarity 34.8%; Pred. No. 5.9e-06; Matches 16; Conservative 14; Mismatches 15; Indels 1; Gaps 1;	MO1. Cell. Biol. 14, 1909-1919, 1994. MO1. Cell. Biol. 14, 1909-1919, 1994 A; Title: Structural and functional aspects of the multiplicity of Neu differentiation face, Reference number: A56210; MUID:94158863; PMID:7509448 A; Reference number: A56210; MUID:94158863; PMID:7509448 A; Accession: 138405 A; Status: preliminary; translated from GB/EMBL/DDBJ A; Molecule type: mRNA A; Residues: 1-125 < RES> A; Cross-references: EMBL:U02327; NID:9408404; PIDN:AAA19952.1; PID:9408405 C; Superfamily: human heregulin; EGF homology; immunoglobulin homology	Qy 1 HFKPCRDKDLAYCLNDGBCFVIETLTGSHKHCRCKBGYQGVRCDQFL 47	Query Match 100.0%; Score 277; DB 2; Length 713; Best Local Similarity 100.0%; Pred. No. 6.9e-24; Matches 47; Conservative 0; Mismatches 0; Indels 0; Gaps 0;	A;Status: preliminary; translated from GB/EMBL/DDBJ A;Molecule type: mRNA A;Molecule type: mRNA A;Residues: 1-713 <zha> A;Cross-references: UNIPROT:O35181; EMBL:AF010130; NID:g2429163; PIDN:AAB70914.1; PID:g24 C;Genetics: A;Gene: NRG3 C;Superfamily: mouse neuregulin-3</zha>	C;Date: 21-Jan-2000 #sequence_revision 21-Jan-2000 #text_change 09-Jul-2004 C;Accession: T44447 C;Accession: Sliwkowski, M.X.; Mark, M.; Frantz, G.; Akita, R.; Sun, Y.; Hillan, K.; Crov Proc. Natl. Acad. Sci. U.S.A. 94, 9562-9567, 1997 A;Title: Neuregulin-3 (NRG3): A novel neural tissue-enriched protein that binds and activ A;Reference number: Z22773; MUID:97420720; PMID:9275162 A;Accession: T44447	RESULT 1 T44447 neuregulin-3 [imported] - mouse C:Species: Mus musculus (house mouse)

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A;Experimental source: breast tumor cell line, MDA-MB-231, ATCC HTB 26 A;Note: sequence extracted from NCBI backbone (NCBIP:103250) R;Culouscou, J.M.; Plowman, G.D.; Carlton, G.W.; Green, J.M.; Shoyab, M. J. Biol. Chem. 268, 18407-18410, 1993 A;Title: Characterization of a breast cancer cell differentiation factor that A;Reference number: A48498; MUID:93366731; PMID:7689552
                                                                                                                                                                                                                                     A;Map position: 8p22-8p11
C;Superfamily: human heregulin; EGF homology; i
C;Keywords: alternative splicing; glycoprotein
F;182-221/Domain: EGF homology <EGF>
12
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                                                                                                                                                                                                                                                                                                                                                                                                 A; Gene: GDB: HGL
                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Molecule type: protein
A;Residues: 'X',15-16,'X',18-20,'RG',23-24,'GP',27,'E',29,'XP',32-36 <PEL>
A;Note: sequence extracted from NCBI backbone (NCBIP:91347)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Molecule type: protein
A;Residues: 20-21,'x',33-24,'XX',27-28 <CUL>
R;Reles, E.; Bacus, S.S.; Koski, R.A.; Lu, H.S.; Wen, D.; Ogden, S.G.; Levy, R.B.; Yarde Cell 69, 205-216, 1992
A;Title: Isolation of the neu/HER-2 stimulatory ligand: a 44 kd glycoprotein that induce A;Reference number: A38155; MUID:92208945; PMID:1348215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Accession: A48498
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    R;Holmes, W.E.; SIIWKOWSKI,
Science 256, 1205-1210, 1992
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C;Date: 31-Dec-1993 #sequence revision 31-Dec-1993 #text_change 08-Sep-2002
C;Date: 30-Dec-1993 #sequence revision 31-Dec-1993 #text_change 08-Sep-2002
C;Accession: A43273; A48498; A38155
R;Holmes, W.E.; Sliwkowski, M.X.; Akita, R.W.; Henzel, W.J.; Lee, J.; Park,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C; Accession: I38404
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C;Date: 29-May-1998 #sequence_revision 29-May-1998 #text_change 09-Jul-2004
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Residues: 1-640 < HOL>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Molecule type: mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Status: nucleic acid sequence not shown; not compared with conceptual translation
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N;Alternate names: breast cancer cell differentiation factor p45; Neu differentiation
                                                                                                                         Matches
                                                                                                                                                                                Query Match
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                                                                                                                                                           Similarity
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                                                                    HFKPCRDKDLAYCLNDGECFVIETLTGSHKH-CRCKEGYQGVRCDQ 45
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34.8%; Pred. No. 1.8e-05;
34.8%; Mismatches 15;
                                                                                                                                                        41.0%;
                                                                                                                     14;
                                                                                                                                                        Score 113.5; DB 2
Pred. No. 2.4e-05;
                                                                                                                         Mismatches
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                                                                                                                               R;Hara, S; Liu, N; Meng, S.Y.; Lu, H.S.
Biochim. Biophys. Acta 1292, 168-176, 1996
A;Title: Isolation and structural characterization of recombinant human neu differentiati
                                                                                                                                                                                                                                                                              C;Date: 28-Oct-1996 #sequence_revision 13-Mar-1997 #text_change
C;Accession: S62676
                                                                                                                                                                                                                                                                                                                                                                 heregulin isoform alpha 2 - human N;Alternate names: differentiation
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                                                                                                                         A; Reference number: S62676; A; Accession: S62676
                                                                                                                                                                                                                                                                                                                                         C; Species: Homo
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type: protein

(fragments)

factor neu

isoform alpha

08-Sep-2002

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                                          223
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C;Species: Rattus norvegicus (Norway rat)
C;Date: 29-May-1998 #sequence revision 29-May-1998 #text change 09-Jul-2004
C;Accession: I61719; I61723; T61716; I61717; I61724; A38720
C;Accession: Suggs, S.V.; Karunagaran, D.; Liu, N.; Cupples, R.L.; Luo, Y.; Janssen, A.M.;
Mol. Cell. Biol. 14, 1909-1919, 1994
A;Title: Structural and functional aspects of the multiplicity of Neu differentiation face
A;Reference number: A56210; MULD:94158863; PMID:7509448
A;Accession: I61719
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161719
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A;Accession: A38220
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A;Residues: 1-422,'H','NL',637-638,'ELRRNKAYRSKCMQIQLGATHLRPSSITHLGFIL' <RI
A;Cross-references: EMBL:U02317; NID:g408384; PIDN:AAA19942.1; PID:g408385
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A;Residues: 1-422,'H','NL',637-638,'ELRRNKAYRSKCMQIQLSATHLRPSSITHLGFIL'
A;Cross-references: EMBL:U02316; NID:g408382; PIDN:AAA19941.1; PID:g408
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A; Residues: 1-422 <WEN>
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                                                                                                          Matches
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                                                                                                                                Similarity
HLIKCAEKEKTFCVNGGECFTVKDLSNPSRYLCKCQPGFTGARCTE
                              HFKPCRDKDLAYCLNDGECFVIETLTGSHKH-CRCKEGYQGVRCDQ
                                                                                                       Conservative
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                                                                                                    40.3%; Score 111.5; DB 34.8%; Pred. No. 4e-05; tive 13; Mismatches
                                                                                                                                                                                                                                                                                                                                                                     n factor: a transmembrane glycoprotein containing MUID:92257596; PMID:1349853
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                                                                                                                                                        Length
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  223
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10, Y.; Trail,
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R;Holmes, W.E.; Sliwkowski, M.X.; Akita, R.W.; Henzel, W.J.; Lee, J.; Par Science 256, 1205-1210, 1992

A;Title: Identification of heregulin, a specific activator of p185(erbB2)

A;Reference number: A43273; MUID:92271253; PMID:1350381

A;Accession: D43273
A;Cross-references: GDB:132656; OMIM:142445
A;Map position: 8p22-8p11
C;Superfamily: human heregulin; EGF homology;
C;Keywords: alternative splicing
F;182-221/Domain: EGF homology <EGF>
                                                                                                                                                                                                                                                                  Nature 362, 312-318, 1993
A;Title: Glial growth factors are alternatively spliced A;Reference number: S32357; MUID:93205115; PMID:8096067
                                                                                                                                                                                                                                                                                                                                 A; Molecule type: mRNA
A; Residues: 1-241 < HOL
A; Cross-references: UNIPROT: Q02297
A; Cross-references: UNIPROT: Q02297
R; Marchionni, M. A.; Goodearl, A.D.J.; Chen, M.S.; Bermingham-McDonogh, O.;
les, I.; Davis, J.B.; Hsuan, J.J.; Totty, N.F.; Otsu, M.; McBurney, R.N.;
Nature 362, 312-318, 1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         heregulin precursor, splice form beta-3 - human
N;Alternate names: glial growth factor HRG-beta-3; neuregulin
C;Species: Homo sapiens (man)
C;Species: Homo sapiens (man)
C;Date: 31-Dec-1993 #sequence_revision 31-Dec-1993 #text_change 09-Jul-2004
C;Accession: D43273; S32358
C;Accession: D43273; S32358
R;Holmes, W.E.; Sliwkowski, M.X.; Akita, R.W.; Henzel, W.J.; Lee, J.; Park,
                                                                                                                          A;Cross-references: GB:L12261; NID:g292049; C;Genetics: A;Gene: GDB:HGL; GGF
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F;116-155/Domain:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                R; Wen, D.; Suggs, S.V.; Karunagaran, D.; Liu, N.; Cupples, R.L.; Luo, Y.; Janssen, A.M. Mol. Cell. Biol. 14, 1909-1919, 1994
A;Title: Structural and functional spects of the multiplicity of Neu differentiation A;Reference number: A56210; MUID:94158863; PMID:7509448
A;Accession: I38408
                                                                                                                                                                                                      A; Molecule type: mRNA
A; Residues: 1-241 < MAR>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C;Date: 29-May-1998 #sequence_revision 29-May-1998 #text_change 08-Sep-2002
C;Accession: I38408
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Status: preliminary; nucleic acid sequence not shown;
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;Superfamily: human heregulin; EGF homology;
;116-155/Domain: EGF homology <EGF>
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Species: Homo sapiens (man)
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; Pred. No. 8.3e-05;
14; Mismatches 18
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Pred. No. 4.8e-05;
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                                                                                                                                                                                PIDN:AAB59358.1;
                                                immunoglobulin
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                                                homology
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A;Title: Sensory and motor neuron-derived factor. A novel heregulin variant highly expres A;Reference number: A56943; MUID:95301541; PMID:7782315 A;Accession: A56943
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A;Title: Glial growth factors are alternatively spliced erbB2 ligands A;Reference number: S32357; MUID:93205115; PMID:8096067
A;Accession: S32359
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C;Superfamily: human heregulin; EGF
F;182-221/Domain: EGF homology <EGF>
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es, I.; Davis, J.B.; Hsuan, J.J.; Totty, N.F.; Otsu, M.; McBurney, R.N.; Waterfield,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ;Species: Homo sapiens (man)
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Best Local
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15; Conserv
                                                                                                         Similarity
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HLVKCAEKEKTFCVNGGECFMVKDLSNPSRYLCKCPNEFTGDRCQNYV
                                     HFKPCRDKDLAYCLNDGECFVIETLTGSHKH-CRCKEGYQGVRCDQFL 47
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                                                                                    Conservative
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                                                                                    37.7%; Score 104.5; DB 2
31.2%; Pred. No. 0.00013;
ative 14; Mismatches 18
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C;Accession: S32357
C;Accession: S32357
R;Marchionni, M.A.; Goodearl, A.D.J.; Chen, M.S.;
R;Marchionni, M.A.; Goodearl, A.D.J.; Totty, N.F.; Ot

Bermingham-McDonogh, O.

O.; Kirk, C.; N.; Waterfield,

Davis, J.B.; Hsuan, J.J.; 62, 312-318, 1993

C;Species: Homo sapiens (man)
C;Date: 02-Dec-1993 #sequence\_revision 10-Nov-1995 #text\_change 08-Sep-2002

glial growth

factor

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heregulin, splice form beta 1 - human
C;Species: Homo sapiens (man)
C;Species: Homo sapiens (man)
C;Date: 31-Dec-1993 #sequence_revision 31-Dec-1993 #text_change 09-Jul-2004
C;Accession: B43273; I38466
C;Accession: B43273; I38466
R;Holmes, W.E.; Sliwkowski, M.X.; Akita, R.W.; Henzel, W.J.; Lee, J.; Park,
R;Holmes, W.E.; Sliwkowski, M.X.; Akita, R.W.; Henzel, W.J.; Lee, J.; Park,
Science 256, 1205-1210, 1992
A;Title: Identification of heregulin, a specific activator of p185(erbB2).
A;Title: Identification of heregulin, a specific activator of p185(erbB2).
A;Reference number: A43273; MUID:92271253; PMID:1350381
A;Accession: B43273
A;Accession: B43273
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A.Title: Structural and functional aspects of the multiplicity of A;Reference number: A56210; MUID:94158863; PMID:7509448
A.Accession: I38407
                                                                                                                                                                                                                                                                                                                               RESULT
B43273
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  A;Status: preliminary; nucleic acid sequence not shown; not A;Molecule type: mRNA A;Residues: 1-645 <HOL>
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C;Keywords: alternative splicing
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A; Residues: 119-406 < RES>
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Science 256, 1205-1210, 1992
A;Title: Identification of h
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A;Residues:
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Best Local Similarity
Matches 15; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gene: GDB:HGL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Cross-references: EMBL:U02329; NID:g408408; PIDN:AAA19954.1; PID:g408409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Status: preliminary; nucleic acid sequence not shown; not compared with conceptual tra
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Title: Identification of heregulin, a specific activator of p185(erbB2) Reference number: A43273, MUID:92271253; PMID:1350381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Date: 31-Dec-1993 #sequence_revision 31-Dec-1993 #text_change 08-Sep-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Species:
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                                                                                                                                                                                                                                                                                                                                                                                                                                           178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens (man)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GDB:132656; OMIM:142445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 37.7%; Score 104.5; DB 2; 31.2%; Pred. No. 0.00025; tive 14; Mismatches 18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           37.7%; Score 104.5; DB 2; 31.2%; Pred. No. 0.00018; tive 14; Mismatches 18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                <EGF>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               R.W.; Henzel, W.J.; Lee, J.; Park,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           human
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                                                      compared with conceptual
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    homology
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homology
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                                                        tra
                                                                                                                                                                                                             C;Species: Rattus norvegicus (Norway rat)
C;Date: 29-May-1998 #sequence revision 29-May-1998 #text_change 09-Jul-2004
C;Accession: I61718; I61721; T61720
C;Accession: Suggs, S.V.; Karunagaran, D.; Liu, N.; Cupples, R.L.; Luo, Y.; Janssen, A.M.
Mol. Cell. Biol. 14, 1909-1919, 1994
A;Title: Structural and functional aspects of the multiplicity of Neu differentiation A;Reference number: A56210; MUID:94158863; PMID:7509448
A;Accession: I61718
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-444,'A',446-636 <RE2>
A;Cross-references: EMBL:U02321; NID:g408392; PIDN:AAA19946.1;
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                                                                                                                                     A;Molecule type: mRNA
A;Residues: 1-636 <RES>
A;Cross-references: UNIPROT:P43322; EMBL:U02318; NID:g408386;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       neu differentiation factor - rat
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                                                                                  A;Status:
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preliminary; translated from GB/EMBL/DDBJ

PIDN: AAA19943.1;

PID:g4083

А.м.;

fa

PID:g408393

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R;Wen, D.; Suggs, S.V.; Karunagaran, D.; Liu, N.; Cupples, R.L.; Mol. Cell. Biol. 14, 1909-1919, 1994
A;Title: Structural and functional aspects of the multiplicity of A;Reference number: A56210; MUID:94158863; PMID:7509448
A;Accession: A56210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 R; Wen, D.; Suggs, S.V.; Karunagaran, D.; Liu, N.; Cupples, R.L.; Luo, Mol. Cell. Biol. 14, 1909-1919, 1934
A; Title: Structural and functional aspects of the multiplicity of Neu A; Reference number: A56210; MUID:94158863; PMID:7509448
A; Accession: I38406
                                                                                                                                                                                                                                                                                                                                                                                      neu differentiation factor - rat (fragment)
C;Species: Rattus norvegicus (Norway rat)
C;Date: 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change 08-Sep-2002
C;Accession: A56210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Map position: 8p22-8p11
C;Superfamily: human heregulin; EGF homology;
C;Keywords: alternative splicing
                                                                                                                                                                         A; Cross-references: EMBL: U02315; C; Superfamily: human heregulin; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A56210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             F;182-221/Domain:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Molecule type: mRNA
A; Residues: 'A', 95-418, 'F', 420-645
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                                                                                                                                                                                                                    A; Residues: 1-230 < RES>
                                                                                                                                                                                                                                   A;Status: preliminary; translated A;Molecule type: mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 14
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Gene: GDB:HGL
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                                                                                   Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            37.7%; Score 104.5; DB 2 31.2%; Pred. No. 0.00025;
                                                                                   37.0%; Score 102.5; DB 2; 31.2%; Pred. No. 0.00018; tive 13; Mismatches 19;
                                                                                                                                                                      ; NID:g408380; PIDN:AAA19940.1; EGF homology; immunoglobulin ho
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          14; Mismatches
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Result
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Maximum DB
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seq length: 2000000000
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Listing first 45 summaries
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117.714 Million cell updates/sec
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_6/ptodata/1/pubpaa/US08_NEW_PUB_pep:*
_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*
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US-10-136-573A-4
US-10-215-862-8
US-10-215-862-8
US-10-944-116-8
US-10-940-111-8
US-10-940-110-9
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45	44	43	42	41	40	39	38	37	36	35	34	ü	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14
113.5	113.5	113.5	113.5	113.5	113.5	113.5	277	277	277	277	277	277	277	277	277	277	277	277	277	277	277	277	277	277	277	277	277	277	277	277	277
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US-10-609-370-17	-096-241-	-10-944-	US-10-215-862-14	-10-136-573P	US-09-877-665-14	US-09-817-647-14	US-10-944-116-6	US-10-609-370-22	-10-	US-10-136-573A-6	9-8	an.	US-10-944-116-2	1	US-10-136-573A-2	US-09-877-665-2	US-09-817-647-2	US-10-944-116-23	10-215-862-2	-10-136-573	US-09-877-665-23	0	US-10-944-116-3	US-10-215-862-3	US-10-136-573A-3	09-877-665-	US-09-817-647-3	US-10-944-116-7	US-10-215-862-7	-10-136-5	US-09-877-665-7
17, App	12	14, App	14, App	e 14	14,	14,	٠ ص	22, App	6, Appl	0	σ	σ			Sequence 2, Appli	N	N	٠.		e 23, App	23,	23,	ω	ω •	e u	3, ,	Sequence 3, Appli	,7	,7	e 7,	Sequence 7, Appli

## ALIGNMENTS

US-09-817-647-4

Sequence 4, Application US/09817647
Patent No. US20020082229A1
GENERAL INFORMATION:

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APPLICANT: Godowski, Paul J., Mark, Melanie Rose, Zhang, Dong Xiao TITLE OF INVENTION: BrbB Receptor-Specific Neuregulin Related Ligands and Uses Therefor NUMBER OF SEQUENCES: 23

CORPUSSESE: Genentech, Inc.
STREET: 1 DNA Way
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER IBM PC compatible
OPERATION SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/817,647
FILING DATE: <Unknown>
PRIOR APPLICATION NUMBER: 09/107,979
FILING DATE: <COnley, Deirdre L.
REGISTRATION NUMBER: 09/107,979
APTORNEY/ACENT INFORMATION:
REFERENCE/DOCKET NUMBER: P1084R1-2
TELEPHONE: 650/252-2066
TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 4:
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Query Match
Best Local Similarity
Thes 47; Conserve
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                                                                                                    US-09-817-647-8
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US-09-817-647-8
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                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: 09/107,979
FILING DATE: «Unknown»
ATTORNEY/AGENT INFORMATION:
NAME: Conley, Deirdre L.
REGISTRATION NUMBER: 36,487
REFERENCE/DOCKET NUMBER: P1084R1-2
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/817,647
FILING DATE: 26-Mar-2001
CLASSIFICATION: -(Unknown)
PRIOR APPLICATION DATA:
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatin (Genentech)
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OTHER INFORMATION:
SEQUENCE DESCRIPTION: SEQ ID NO:
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LENGTH: 47 amino aci
TYPE: Amino Acid
TOPOLOGY: Linear
                                                                                                                    SEQUENCE DESCRIPTION: SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 1 DNA Way
                                                                                                                                                                                                                      FEATURE:
                                                                                                                                                                                                                                                                                                 SEQUENCE CHARACTERISTICS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Godowski, Paul J., Mark, Melanie Rose, Zhang, Dong Xiao
TITLE OF INVENTION: ErbB Receptor-Specific Neuregulin Related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              47;
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                                                                                                                                                                                                                                    TYPE: Amino Acid
TOPOLOGY: Linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STATE: California
                                                                                                                                                                                             NAME/KEY:
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                                                                                                                                                                                                                                                                         LENGTH: 47 amino acids
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                                                                                                                                      IDENTIFICATION METHOD: OTHER INFORMATION:
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nilarity 100.0%;
Conservative 0;
                      Conservative
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                                    100.0%; Score 277; DB 9; 100.0%; Pred. No. 4.3e-26;
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Pred. No. 4.3e-26;
                      Mismatches
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                                                         DB 9; Length 47;
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RESULT 4
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                                                                                    Sequence 8, Application US/09877665
Patent No. US20020164680A1
PATENT INFORMATION:

APPLICANT: Godowski, Paul J., Mark, Melanie Rose, Zhang, Dong Xiao
TITLE OF INVENTION: ErbB Receptor-Specific Neuregulin Related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 4, Application US/09877665
Patent No. US20020164680A1
GENERAL INFORMATION:
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SEQUENCE CHARACTERISTICS:
SEQUENCE HAT amino acids
TYPE: Amino Acid
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MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatin (Genentech)
CURRENT APPLICATION NUMBER: US/09/877,665
FILING DATE: 08-Jun-2001
CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:
OCCUPANTIAL CONTROL OF THE CONTROL OF THE CASSIFICATION DATA:
OCCUPANTIAL CONTROL OF THE CONTROL OF THE CASSIFICATION DATA:
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FILING DATE: 30-Jun-1998
ATTORNEY/AGENT INFORMATION:
NAME: Conley, Deliatre L.
REGISTRATION NUMBER: 36,487
REFERENCE/DOCKET NUMBER: P1084R1-1
                       NUMBER OF SEQUENCES: 23
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Godowski, Paul J., Mark, Melanie Rose, Zhar
TITLE OF INVENTION: ErbB Receptor-Specific Neuregulin
Ligands and Uses Therefor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE DESCRIPTION: SEQ ID NO: 4:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURE:
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                                                                                                                                                                                                                                                                                              47;
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ADDRESSEE: Genentech, Inc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TOPOLOGY: Linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEPHONE: 650/225-20
TELEFAX: 650/952-9881
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IDENTIFICATION METHOD:
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                                                                                                                                                                                                                                                                                                                                                                                   100.0%; Score 277; DB 9; ilarity 100.0%; Pred. No. 4.3e-26; Conservative 0; Mismatches 0;
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                                                                 Ligands and Uses Therefor
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US-10-136-573A-4
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  Query Match
                                                                                                                               SEQ ID NO 4
                                                                                                                                                                   CURRENT APPLICATION NUMBER: US/10/136,573A
CURRENT FILING DATE: 2002-04-29
PRIOR APPLICATION NUMBER: US 09/480,977
PRIOR FILING DATE: 2000-01-11
PRIOR APPLICATION NUMBER: US 08/899,437
PRIOR PILING DATE: 1997-07-24
PRIOR PILING DATE: 1997-07-09
PRIOR PILING DATE: 1997-07-09
                                                                                                                                                     NUMBER OF SEQ ID NOS: 23
                                                              ORGANISM: Homo sapiens
                                                                                                         LENGTH:
                                                                                                             47
    100.0%;
  Score 277;
DB 13; Length 47;
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; LENGTH: 47 ; TYPE: PRT ; ORGANISM: Homo sapiens US-10-215-862-4

Best Local Similarity Matches 47; Conserv

Conservative

0

Mismatches

4.3e-26; DB 14;

Length 47; Indels

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Gaps

0

100.0%; Score 277; 100.0%; Pred. No. 4

Query Match

NUMBER OF SEQ ID NOS: SEQ ID NO 4

23

CURRENT APPLICATION NUMBER: US/10/215,862
CURRENT FILING DATE: 2002-09-24
PRIOR APPLICATION NUMBER: US 09/126,663
PRIOR FILING DATE: 1998-07-30
PRIOR APPLICATION NUMBER: US 08/899,437
PRIOR FILING DATE: 1997-07-24
PRIOR FILING DATE: 1997-07-09
PRIOR FILING DATE: 1997-07-09

FILE REFERENCE: P1084R1D2C1

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Sequence 4, Application US/10136573A

Publication No. US20020161200A1

GENERAL INFORMATION:

APPLICANT: Godowski, Paul J.

APPLICANT: Mark, Melanie Rose
APPLICANT: Zhang, Dong Xiao

TITLE OF INVENTION: ExbB Receptor-Specific Neuregulin Related Ligands and
TITLE OF INVENTION: Uses Therefor
FILE REFERENCE: P1084R1C2

CIUDEDEN'A BODITCANTICY NUMBERS
                                                                                                                                                                                                                                                                                                                                                                                 Matches
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SEQUENCE CHARACTERISTICS:
LENGTH: 47 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                   Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE DESCRIPTION: SEQ ID NO: 8:
                                                                                                                                                                                                                                                                                                                1 HFKPCRDKDLAYCLNDGECFVIETLTGSHKHCRCKEGYQGVRCDQFL 47
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME/KEY: NRG3 EGF-like domain/amino acid seq. LOCATION: 1-47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: Amino Acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TOPOLOGY: Linear
                                                                                                                                                                                                                                                                                                                                                                            100.0%; Score 277; DB 9; 100.0%; Pred. No. 4.3e-26; tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                    Length 47;
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US-10-215-862-4

Sequence 4, Application US/10215862 Publication No. US20030036166A1

GENERAL INFORMATION:

APPLICANT: Godowski, Paul J.
APPLICANT: Mark, Melanie Rose
APPLICANT: Zhang, Dong Xiao
TITLE OF INVENTION: ErbB Receptor-Specific Neuregulin Related Ligands and
TITLE OF INVENTION: Uses Therefor

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                                                                                                                                                                              ; ORGANISM: Homo sapiens
US-10-136-573A-8
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                                                                                   Query Match 100.0%; Score 277; DB 13; Best Local Similarity 100.0%; Pred. No. 4.3e-26; Matches 47; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                  SEQ ID NO 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 8, Application US/10136573A Publication No. US20020161200A1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                             FILE REFERENCE: P1084RIC2
CURRENT APPLICATION NUMBER: US/10/136,573A
CURRENT FILING DATE: 2002-04-29
                                                                                                                                                                                                                                                                                            NUMBER OF SEQ ID NOS: 23
                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION NUMBER: US 60/052,019
PRIOR FILING DATE: 1997-07-09
                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION NUMBER: US 09/480,977
PRIOR FILING DATE: 2000-01-11
PRIOR APPLICATION NUMBER: US 08/899,437
PRIOR FILING DATE: 1997-07-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE OF INVENTION: ErbB Receptor-Specific Neuregulin Related Ligands and TITLE OF INVENTION: Uses Therefor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Godowski, Paul J.
APPLICANT: Mark, Melanie Rose
APPLICANT: Zhang, Dong Xiao
                                                                                                                                                                                                                             TYPE: PRT
                                                                                                                                                                                                                                                LENGTH: 47
                       1 HFKPCRDXDLAYCLNDGECFVIETLTGSHKHCRCKEGYQGVRCDQFL 47
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HFKPCRDKDLAYCLNDGECFVIETLTGSHKHCRCKEGYQGVRCDQFL 47
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                                                                                                                                  DB 13;
                                                                                        Indels
                                                                                                                                Length 47;
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/09/109,206
FILING DATE: 30-Jun-1998
ATTORNEY/AGENT INFORMATION:
NAME: Conley, Deirdre L.
REGISTRATION NUMBER: 36,487
REGISTRATION NUMBER: 91084R1-1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-2666

TELEFAX: 650/952-9881

COMPUTER READABLE FORM:
- MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatin (Genentech)

STATE: California

: South San

Francisco

ZIP: 94080

CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/877,665
FILING DATE: 08-Jun-2001
CLASSIFICATION: <Unknown>

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US-10-944-116-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; ORGANISM: Homo sapiens
US-10-215-862-8
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Publication No. US20050048622A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQ ID NOS: 23
SEQ ID NO 8
LENGTH: 47
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Publication No. US20030036166A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE OF INVENTION: ErbB Receptor-Specific Neuregulin Related Ligands and TITLE OF INVENTION: Uses Therefor FILE REFERENCE: P1084R1DC1 CURRENT APPLICATION NUMBER: US/10/215,862 CURRENT FILING DATE: 2002-09-24 PRIOR APPLICATION NUMBER: US 09/126,663 PRIOR APPLICATION NUMBER: US 09/126,663 PRIOR FILING DATE: 1998-07-30 PRIOR APPLICATION NUMBER: US 08/899,437 PRIOR APPLICATION NUMBER: US 60/052,019 PRIOR FILING DATE: 1997-07-09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Mark, Melanie Rose
APPLICANT: Zhang, Dong Xiao
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Godowski, Paul J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: PRT
                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatin (Genentech)
CURRENT APPLICATION DATA:
                                                                                                                              PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Godowski, Paul J.
Mark, Melanie Rose
Zhang, Dong Xiao
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION: ErbB4 Receptor-Specific Neuregulin Related
Ligands and Uses Therefor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQUENCES:
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                                                                                                                                                APPLICATION NUMBER: US/10/944,116
FILING DATE: 17-Sep-2004
CLASSIFICATION: CUNKNOWN>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HFKPCRDKDLAYCLNDGECFVIETLTGSHKHCRCKEGYQGVRCDQFL 47
                            APPLICATION NUMBER: 09/877665
FILING DATE: 08-JUN-2001
APPLICATION NUMBER: 09/109206
FILING DATE: 30-JUN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                           STATE: California
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                                                                                                                                                                                                                                                                                                                                                                                                                                                   CITY: South San Francisco
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100.0%; Pred. No. 4.3e-26;
htive 0; Mismatches 0;
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Best Local Similarity
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SEQUENCE CHARACTERISTICS:
LENGTH: 47 amino acids
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                            INFORMATION FOR
                                                             PRIOR APPLICATION UNMER: 09/877665

RILING DATE: 08-JUN-2001

APPLICATION NUMBER: 09/109206

FILING DATE: 30-JUN-1998

APPLICATION NUMBER: 60/052019

RILING DATE: 09-JUL-1997

ATTORNEY/ACENT INFORMATION:

NAME: Conley, Deirdre L.

REGISTRATION NUMBER: 36,487

REFERENCE/DOCKET NUMBER: P1084R:

TELECOMMUNICATION INFORMATION:

TELEPHONE: 650/225-2066
TELEFAX: 650/952-9881
MATION FOR SEQ ID NO: 8:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                     CLASSIFICATION: < Unknown>
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOFTWARE: WinPatin (Genentech)
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: 1BM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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ANME: COALEY, Deirdre L.
REGISTRATION NUMBER: 36,487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE OF INVENTION: ErbB4 Receptor-Specific Neuregulin Related
Ligands and Uses Therefor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Godowski, Paul J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE DESCRIPTION: SEQ ID NO: 4:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     47;
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                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US/10/944,116 FILING DATE: 17-Sep-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CITY: South San Francisco
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADDRESSEE: Genentech, Inc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LOCATION: 1-47
IDENTIFICATION METHOD:
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ilarity 100.0%;
Conservative (
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Pred. No. 4.3e-26;
); Mismatches 0;
                                                                                                                           P1084R1-1C2
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Indels Length 47;

0

Gaps

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문
; ORGANISM: Homo sapiens
US-10-609-370-2
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US-10-240-411-6
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US-10-240-411-6
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                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
APPLICANT: Young et al.
TITLE OF INVENTION: Heregulin-Like Factor
FILE REFERENCE: PF383D1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQ ID NOS: 20
SOFTWARE: PatentIn version 3.0
SEQ ID NO 6
                                                       SOFTWARE: PatentIn version 3.2
SEQ ID NO 2
LENGTH: 157
                                                                                                                                                                                                                                                                                                                                                Sequence 2, Application US/10609370 Publication No. US20040048295A1
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Best Local (
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Publication No. US20040121326A1
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                                                                                                                                    CURRENT APPLICATION NUMBER: US/10/609,370
CURRENT EILING DATE: 2003-07-01
PRIOR APPLICATION NUMBER: 09/097,681
PRIOR FILING DATE: 1998-06-16
PRIOR APPLICATION NUMBER: 60/049,942
PRIOR APPLICATION NUMBER: 60/049,942
PRIOR FILING DATE: 1997-06-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Hazari, Daniel
APPLICANT: Yarden, Yosef
TITLE OF INVENTION: NOVEL GROWTH FACTOR WHICH ACTS THROUGH ERB B-4 RECEPTOR TYROSINE
TITLE OF INVENTION: SEQUENCES ENCODING SAME AND USES THEREOF
FILE REFERENCE: 01/21918
CURRENT APPLICATION NUMBER: US/10/240,411
CURRENT FILING DATE: 2003-05-16
PRIOR APPLICATION NUMBER: US 09/553,769
PRIOR FILING DATE: 2000-04-21
                                                                                                                          NUMBER OF SEQ ID NOS: 22
                                        TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH: 48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       / Match 100.0%; ;
Local Similarity 100.0%; ;
nes 47; Conservative 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2 HFKPCRDKDLAYCLNDGECFVIETLTGSHKHCRCKEGYQGVRCDQFL 48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 HFKPCRDKDLAYCLNDGECFVIETLTGSHKHCRCKEGYQGVRCDQFL 47
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 47 amino TYPE: Amino Acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100.0%; Score 277; DB 16; ilarity 100.0%; Pred. No. 4.4e-26; Conservative 0; Mismatches 0;
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Pred. No. 4.3e-26;
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                                                                                                                       RESULT 14
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Sequence 7, Application US/09877665
Patent No. US20020164680A1
GENERAL INFORMATION:
APPLICANT: Godowski, Paul J., Mark, Melanie Rose, Zhang, Dong
TITLE OF INVENTION: ErbB Receptor-Specific Neuregulin Related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 7, Application US/09817647
Patent No. US20020082229A1
GENERAL INFORMATION:
APPLICANT: Godowski, Paul J., Mark, Melanie Rose, Zhang, Dong
TITLE OF INVENTION: ErbB Receptor-Specific Neuregulin Related
Ligands and Uses Therefor
                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity Matches 47; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEFAX: 650/952-9881 INFORMATION FOR SEQ ID NO: 7:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/817,647
FILING DATE: 26-Mar-2001
CLASSIFICATION: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME: Conley, Deirdre L.
REGISTRATION NUMBER: 36,487
REFERENCE/DOCKET NUMBER: P1084R1-2
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-2066
                                                                                                                                                                                                                                                                                                                                                              SEQUENCE DESCRIPTION: SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQUENCES: 23
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                 286 HFKPCRDKDLAYCLNDGECFVIETLTGSHKHCRCKEGYQGVRCDQFL 332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             <u>3</u>
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                                                                                                                                                                                                       1 HFKPCRDKDLAYCLNDGECFVIETLTGSHKHCRCKEGYQGVRCDQFL 47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: WinPatin (Genentech)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HFKPCRDKDLAYCLNDGECFVIETLTGSHKHCRCKEGYQGVRCDQFL 77
                                                                                                                                                                                                                                                                                                                                                                              OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                     NAME/KEY:
LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: Amino Acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: 09/107,979
FILING DATE: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CITY: South San F
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                 IDENTIFICATION METHOD:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TOPOLOGY: Linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE: Genentech, Inc.
                                                                                                                                                                                                                                                             Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                          hNRG3 extracellular domain/Amino AcidSeq 1-360
                                                                                                                                                                                                                                                                             100.0%; Score 277; DB 9; 100.0%; Pred. No. 3.3e-25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100.0%;
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Pred. No. 1.4e-25;
                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                7:
                                                                                                                                                                                                                                                                                                Length 360;
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CORRESPONDENCE ADDRESS:

STREET: 1 DNA Way

Genentech, Inc.

[TY: South San Francisco

Ligands and Uses Therefor NUMBER OF SEQUENCES: 23

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RESULT 15
US-10-136-573A-7
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SEQ ID NO 7
LENGTH: 360
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 100.0%; Score 277; DB 9; Best Local Similarity 100.0%; Pred. No. 3.3e-25; Matches 47; Conservative 0; Mismatches 0;
                                                                                  APPLICANT: Mark, Melanie Rose
APPLICANT: Mark, Melanie Rose
TITLE OF INVENTION: BrbB Receptor-Specific Neuregulin Related Ligands and
TITLE OF INVENTION: Uses Therefor
FILE REFERENCE: P1084R1C2
CURRENT APPLICATION NUMBER: US/10/136,573A
CURRENT FILING DATE: 2002-04-29
PRIOR APPLICATION NUMBER: US 09/480,977
PRIOR FILING DATE: 2000-01-11
PRIOR APPLICATION NUMBER: US 08/899,437
PRIOR APPLICATION NUMBER: US 60/052,019
PRIOR APPLICATION NUMBER: US 60/052,019
PRIOR APPLICATION NUMBER: US 60/052,019
PRIOR FILING DATE: 1997-07-09
PRIOR FILING DATE: 1997-07-09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              equence 7, Application US/10136573A ublication No. US20020161200A1
                                                                          NUMBER OF SEQ ID NOS: 23
                                                                                                                                                                                                                                                                                                                                                                                                                                             NPPLICANT: Godowski, Paul J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 7:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION DATA:

APPLICATION NUMBER: US/09/109,206
FILING DATE: 30-Uni-1998
ATTORNEY/AGENT INFORMATION:

NAME: Conley, Deirdre L.

REGISTRATION NUMBER: 36,487
REGISTRATION NUMBER: P1084R1-1
TELECOMMUNICATION INFORMATION:

TELEPHONE: 650/225-2066
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatin (Genentech)
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IDENTIFICATION METHOD:
OTHER INFORMATION:
SEQUENCE DESCRIPTION: SEQ ID NO: 7:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              286 HFKPCRDKDLAYCLNDGECFVIETLTGSHKHCRCKEGYQGVRCDQFL 332
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FILING DATE: 08-Jun-2001
CLASSIFICATION: -Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LENGTH: 360 amino acids
TYPE: Amino Acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STATE: California
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TOPOLOGY: Linear
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; ORGANISM: Homo sapiens US-10-136-573A-7

Ş Query Match 100.0%; Score 277; DB 13; Best Local Similarity 100.0%; Pred. No. 3.3e-25; Matches 47; Conservative 0; Mismatches 0; 1 HFKPCRDKDLAYCLNDGECFVIETLTGSHKHCRCKEGYQGVRCDQFL 47 Indels Length 360; 0 Gaps

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286 HFKPCRDKDLAYCLNDGECFVIETLTGSHKHCRCKEGYQGVRCDQFL 332

Search completed: May 4, 2005, 12:20:04 Job time: 134 secs